

September. 1868.

THE
AMERICAN FARMER:
DEVOTED TO
Agriculture, Horticulture, and Rural Economy.
[ESTABLISHED 1819.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

Sixth Series. BALTIMORE, SEPTEMBER, 1868. Vol. III.—No. 3.

SEPTEMBER.

"Sure peace is his; a solid life, estranged
To disappointment, and fallacious hope;
Rich in content, in Nature's bounty rich,
In herbs and fruits; whatever greens the Spring,
When heaven descends in showers; or bends the bough,
When Summer reddens and when Autumn beams"

Work for the Month.

As we pass again to fall work, there is need of all the stir and energy which the cooler temperature now admits. Wheat, tobacco, corn, and almost all crops, in some stage or other of their advance, present themselves to our notice.

CORN FIELD.

Little is to be done in the corn field, except fodder-saving, where that is allowed, and the clearing of the ground for wheat sowing, if that crop is to follow in rotation. We do not commend the practice of pulling blades and cutting tops; the waste of grain by loss of weight tells heavily against it, and as a mode of getting a supply of long provender, it is more costly than a crop of timothy. If there are many, however, as there will be, who still resort to this practice, on account of scarcity of other provision, and the intrinsic value of the corn fodder well preserved, let them begin in time, save their blades with care, and get them into a well made stack, or, what is better, under cover, as soon as sufficiently cured. To have such costly food rotted, as it often is, after the labor of pulling, is worse than folly. The corn ground should be the first sown

in wheat, and for this purpose the corn should be cut close at the ground, as soon as the grain becomes firm.

WHEAT.

In some portions of Maryland and Delaware the red wheats are sown early in September, and with such success that the practice has become common. In others, few will sow earlier than October, for fear of fly. We favor always early sowing, thinking there are a great many more chances in its favor than against it, in the average of years. At any rate, let all wheat land be put in order with the least loss of time. For any late sowing get it in the finest condition in advance, that the plants may have no impediment to rooting quickly, and making the utmost of so much of the fall season as may be left them. The heaviest corn ground which has been well cultivated through the season, will need no ploughing, but may be seeded with the drill, if not too grassy to admit the entering of the teeth. In that case, a long-toothed harrow dragged forward and back in its own track will comb the grass off sufficiently.

SEED.

Let the seed be only the cleanest to be had, and however clean, wash it in a brine strong enough to float an egg, and dry with finely powdered lime. In washing, pour the seed slowly into the brine, that smut or other light stuff may float on the surface to be skimmed off, and then stir up thoroughly. Drain well in baskets or otherwise before applying the lime.

TOBACCO.

This is a very important month to the tobacco grower. All his efforts must be now directed to finishing up the field work yet needed, as preparatory to lodging it safely in the houses. Worms must be entirely exterminated before cutting, unless fires are to be used in curing. If carried into the houses undisturbed, they will carry on their work of ragging and defacing the best leaves. All suckers must be carefully broken out before cutting.

By the 20th of the month, at farthest, the whole crop should be topped. This will give three weeks of time in which the small top leaves may lengthen out, and the plants ripen before it will be necessary to close up the cutting. Let each day's cutting be no more than than can be handled and hung away in the house, without undue haste, by ten o'clock of the following morning. At this hour, the dew being well off, the cutting for the day should begin. See that the cutters lay the plants without doubling and rumpling the leaves; and let them not lie too long to wilt in the sun. But little of such exposure is needful, if moderate care be used in picking up and putting into small turns for the cart.

The master should see to it that ample room be allowed in hanging, and that plants be not crowded upon the sticks, nor the sticks jammed together in the house. If so close that every plant has not room to fall entirely clear of every other one, there will be damage done in curing.

RYE.

Sow rye without delay. It is not a favorite grain in wheat growing districts, from the difficulty of preventing its growing as a weed in that crop, and because of the facility of making a crop of wheat on the poorer class of soils by the use of the fertilizers of the market. Whenever sown let it be sown early, and with a dressing equal in value to a hundred pounds of Peruvian guano to the acre. Three pecks of seed is sufficient, if grain be the object. When sown chiefly as a forage crop, two bushels of seed is not too much. It must be sown thickly, and manured heavily, to be most profitable for this purpose, and the earlier sown the better.

MANURES.

No crop is so sure to profit by generous manuring as wheat, and none is so unreliable

without it, unless it be sown on a good clover or pea fallow. If not all, at least a portion of the manure should be so put on as to be of immediate service in forcing the young plants in their fall growth. The application of the equivalent of fifty pounds of guano by the drill in seeding, is the best method of doing this, and this is to be recommended, however the crop is to be manured otherwise. Yard manures should be so applied, either before or after seeding, so as to keep them on or near the surface.

TIMOTHY.

Timothy should be sown immediately after the wheat sowing, if upon the same ground; otherwise as early this month as practicable. If sown for a full crop the next season, it must be sown without grain, but be manured as you would wheat and sown thick, not less than a peck of best seed to the acre.

The Vegetable Garden.

SEPTEMBER.

Begin at once the work peculiar to the season. Remove weeds, and carry all decaying, waste matter to the compost heap. All vacant ground or whatever is now to be cleared of earlier crops should be planted and filled up with fall crops.

Beans.—Late crops should be kept clear of weeds and earthed up.

Beets.—Take up early crops by the close of the month. Be careful in storing them in a dry, airy place, the external moisture being well dried off before storing.

Cabbage.—Sow seeds this month of hardy early sorts, to stand over winter, and produce early crops. The early York is well known, and other hardy kinds may be tried, which the seedsmen offer. The plants are to be set out on ridges about the 1st of November.—Sow seed enough to insure an abundant supply.

Cauliflower.—Seeds of this fine vegetable, for early spring and summer use, should be sown the latter part of the month. There is but little more skill required than in growing the cabbage, and it should be more common in our country gardens than it is.

Celery.—As the crop advances continue to earth up every ten days or so, in dry weather, and without covering the bud.

German Greens.—Sow early in the month,

for late winter and early spring use. If the first sowing fail, sow again and again, and allow no failure of a crop, the value of which we do not sufficiently realize till we miss. Let the ground be thoroughly prepared. If the weather be very dry, top-dress with long litter or manure after sowing.

Lettuce.—For winter crop sow seeds early in the month. Plant out in rich beds such as are now fit, and keep well worked.

Onions.—Take up onions when the tops have fallen, and leave to dry well in the sun before trimming them, and storing in a dry, airy place. Break down the tops of such as still exhibit luxuriant growth.

Radish.—Sow now hardy varieties for winter use, such as black Spanish and winter Chinese rose.

Spinach.—Sow of this for spring greens about the middle of the month. The prickly kind is the best.

Turnips.—Keep them sufficiently thinned and clear of weeds.

Potatoes.—When the tops are dead, they should be taken up and put away, care being taken that they have sufficient ventilation, and are not stored in too large bodies.

The Flower Garden.

Roses.—Such as are growing in the open ground, and intended for blooming in Green-house during winter, should, towards the end of the month, be taken up and potted; after which, place them in a shady situation for a few days. Continue to put in cuttings, and as the weather begins to get cooler, the success in getting more of them to take root will be evident.

Dahlias.—These will be in full bloom before the end of the month—give water freely to the roots should dry weather set in; occasionally look over the whole, and cut off all suckers and superfluous branches, keeping the leading shoots tied up to stakes.

Chrysanthemums.—Those in pots should now receive the last shift for the season; discontinue pinching back the shoots, as the flower buds will soon be making their appearance. Towards the close of the month all such plants as are wanted from the open ground may be lifted and potted; continue to water freely at the roots with liquid manure.

Tender Annuals.—for winter blooming, sown last month, should be potted off singly, or pricked off into pans or boxes to stand for a week or two longer before potting.

Camellias.—Continue to syringe the old plants freely overhead, until cold weather sets in, when they should be removed to the Green-house.

Paeonias.—may be divided and transplanted this month.

Hardy herbaceous plants of all kinds, can now be transplanted with safety; they will take root before the cold weather sets in.

Phloxes.—of various kinds can now be increased readily by cuttings of the young shoots put in sand and placed in a moist, shady situation.

Scarlet Geraniums and *Heliotropes*.—should be sifted and placed in pots about the last of the month.

Verbenas, *Petunias* and *Heliotropes*. Put in cuttings of these to make plants for next spring.

Grass for Horses.

Many persons think that horses that are kept in the stable all summer should not be allowed to eat grass. They think it will make the horse soft, wishy-washy, and that it will throw him out of condition for hard work. This is particularly the case with some of the trainers of trotting and running horses. And horses that are kept up for farm and other work are refused grass because their drivers think they will not eat hay so well. This was formerly the case more than it is now. But these are all erroneous opinions and practices, and are giving way, gradually, to a more reasonable and natural system of feeding.

Grass is the natural food of the horse. It is cooling and healthful food. It keeps the bowels open and sharpens the appetite. It promotes digestion, and removes fever from the system. Therefore, by all means, let the horse nip grass fifteen or twenty minutes daily. Whether training for trotting or running, it will be attended with the highest benefit. The horse will lose none of his speed by such a course of treatment. Horses that are kept up the year round for farm work should certainly be allowed a nice nibble at grass every day. They work hard, and all they get for it is something to eat. Let them have, then, what they all like so well.—*Rural World*.

The Fruit Garden.

All fruits are to be gathered when ripe.—Pears are better for being pulled as soon as the stem separates freely from the branch, when they are to be very carefully pulled and put upon shelves to ripen. Grapes must ripen well on the vines to be good for the table, and very thoroughly if wine is to be made of them.

Winter apples will not be ripe enough to gather before October. Gather in dry weather, pulling all sorts intended for keeping carefully by hand. Put them in the dark, where there is sufficient ventilation. Let the storehouse be cool, but capable of being made perfectly secure against frost.

Strawberries.—When new plantations are not completed, plant when the weather admits. Much less moisture is needed in planting if the ground be thoroughly pulverized, and if necessary, add half pint of water to each plant, on setting them out, and repeat occasionally as needed.

Preparation for Planting.—Continue from time to time, as opportunity offers, the most thorough preparation of such ground as may be intended for planting. It is very desirable to have the ploughing done deeply and well, and it should be done leisurely, and as long as convenient before planting, that the atmosphere may act well upon it, and it may settle well in advance of planting. The general manuring should be broadcast, and put on after the ploughing whenever convenient.—When such preparation as we recommend is become familiar to tree planters, we will hear no more of digging post holes three feet across, and so many deep, to ram the roots into.

Grape Vines.—Pinch off all laterals, as it is too late now for the vines to be benefited by any leaves to be formed. Remove all useless wood.

Weeds.—Weeds will be found to grow in all cultivated grounds faster than the fall crops, and will make their appearance wherever seed has been allowed to ripen and fall during the summer months. Make short work of them now, if not too large, by putting in the Dutch hoe on a fine day. They may be raked up for the compost heap, or left to wither on the ground.

Ambition sleeps even in the breast of Apostles.

Apples.

BALTIMORE, Md., Aug. 7, 1868.

Messrs. Worthington & Lewis:

GENTLEMEN: Yours of the 4th instant received, making inquiry of the best varieties of apples for the latitude of Maryland. Subjoined is a list of varieties best adapted for this latitude for general cultivation and productiveness:

Summer Varieties.—American Summer Pearmain, Early Harvest, Early Strawberry, Large Early Bough, Red Astracan, Carolina Red June.

Fall Varieties.—Holland Pippin, Maiden's Blush, Bell Flower, English Redstreak, Dominionie.

Winter Varieties.—Baldwin, Hubbardston's Nonesuch, Seek-no-further, Smith's Cider, Tulpehocken, Large Paradise, Long Island Russet, Michael Henry Pippin, Pomme d'Api, or Lady Apple, Esopus Spitzenberg.

Very respectfully,

WM CORSE & SON.

Cultivation of Currants.

As currants will grow, and bear something, in spite of total neglect, many people are not aware of the benefit it is to any variety to give it the best possible chance for development. Manuring, pruning and mulching will work wonders with the currant; an annual manuring is essential to successful culture, and if large fruit is desired, the bushes should be properly pruned, and during the fruiting season, heavily mulched. Plants one or more years old can be procured from the nurseries, or they may be raised with the greatest ease from cuttings. Portions of wood of this year's growth, set this fall, will give good plants next year. Having obtained cuttings, about a foot long, from a reliable source, remove with a sharp knife all but the three upper buds, and set them in good soil with the buds above the surface. Take particular care to press the soil closely in contact with the lower end of the cutting. The next year the object should be to get one good and strong upright shoot. Select the shoot from the bud that pushes strongest, and train it to a stake, pinching back the others. In this way plants with a strong single stem will be obtained, which are to be planted out five feet distant each way in autumn. The next spring the treatment will depend upon the mode of train-

ing adopted, which may be the tree, pyramid, or vase method.

To train a bush in tree style, remove all buds so as to leave a clean stem from six inches to a foot above the surface of the ground, and then cut the top back, so as to leave three strong buds; these will form three branches, which are allowed to grow during the season, and the next year are cut back to two buds each, which will give a round-headed tree of six branches, each of which are afterwards to be cut back one-half, and have all superfluous shoots trimmed out.

The vase-form of training consists in having several main branches with fruit-bearing side shoots, and is preferred by many good cultivators. To practice this, cut back a one-year old plant of a single stem, to four or six buds. Encourage the growth from these, and, if necessary, train them to a hoop, to ensure an equal spreading of these main branches. These upright stems may throw out side branches the first year, or not until the second—in either case they should be pinched back to four inches, when they get to be six or eight inches long. If any shoot afterwards pushes from a side branch, pinch back to a single leaf. By training bushes in this form, with the centre kept open, fine fruit can be raised.—*Am. Agriculturist.*

Preserving Fruit.

The Prairie Farmer, in an article on *The Theory and Practice of Preserving Fruit*, furnishes the following practical directions:

As the season is now at hand when fruit should be put up for winter use, we append some simple rules, which will enable those who have had no instruction in the art, to provide themselves with a luxury at once cheap and healthful.

Condition of the Fruit.—The fruit, to keep well, and to retain its original flavor, should be put up when freshly picked; it should be well ripened, but not over ripe; if partially green it will be of inferior flavor and hard to keep. It is preferable that the fruit be gathered in a dry day, and that all inferior or imperfectly ripe specimens be rejected.

The Sugar.—Some kinds of fruit will keep well without the application of sugar; but as it will be needed when the fruit is put on the table, it is just as economical to put it in the jar at the time the fruit is put up; and, by so doing, it will aid in the preservation. The

best white sugar is the cheapest and most economical for this, as for every other purpose in cooking. The quantity used should be the same that is put on fresh fruit for the table.

Bottles, Jars and Cans.—When the vessel is to be sold with the fruit, it is usual to make use of one of metal. But for domestic use it is preferable to have vessels of glass, as they will not corrode, and with proper care can be kept a long time. Any glass jar or bottle with a wide mouth will answer for the purpose. The best of corks should be used, first softening them in warm water. It is preferable, however, to use some form of jar which is prepared expressly for this purpose.

Cooking the Fruit.—Two methods are resorted to for cooking the fruit. One is to put it into the jar with sugar, and sufficient water to prevent burning. The other is to cook the fruit in another vessel, and then, when perfectly cooked, to place it into the jar. We prefer the latter method, as the one easiest done and the most certain to cook the fruit uniformly. The best vessel for this purpose is a porcelain-coated iron kettle,

Time of Cooking.—The general rule for cooking is to boil the fruit till it is heated through the centre. Too much cooking will impair the flavor of the fruit, and injure its appearance. A little experience with each kind of fruit will determine the time it should be cooked. If cooked in a kettle, strawberries, raspberries, blackberries and whortleberries should be cooked from three to five minutes; peaches, from six to eight; quinces and pears from fifteen to twenty. If cooked in the can they will require to remain somewhat longer.

Canning.—Have every thing ready before you begin to can. If corks are used in the bottles, prepare some sealing wax in a ladle, by melting together $\frac{1}{4}$ oz. of tallow with 1 lb. of rosin. Temper the jars by placing them in a boiler of cold water and bring it to a boil. When the fruit is sufficiently cooked, take out and fill the bottles to within a half an inch of the top. Let them remain about two minutes before sealing them, occasionally jarring them to help the escape of air. Now fit the caps on the self-sealers, according to directions accompanying them. If any are secured by corks, wipe out the mouths of the bottles with a towel, adjust the corks, pressing them below the top of the neck, and fill up with sealing wax. The fruit will keep best if placed in a dry, cool and dark room.

Ploughing Orchards.

I have a young orchard that I set out eleven years ago and cultivated it nine years and then laid it down to clover. This spring I ploughed it and found that the roots of the trees had literally filled the ground, so that by ploughing only about four inches deep, I ploughed off the roots by thousands, which I think must be a great injury to the trees. Now what am I to do? The fruit books and agricultural papers recommend cultivating orchards as a corn or potato field, but I am confident that it will ruin mine if I continue to plough the land.

E. L.

Long Plain, Mass., May 13, 1868.

REMARKS.—The apparent superabundance of self-sustaining and re-producing power in both vegetables and animals is one of the most wonderful provisions in nature. Compared with the multitude of blossoms which fruit trees put forth every spring, how small is the crop that matures! Prof. Owen estimates the possible increase of a single aphid, or plant louse, in the ten generations of which it is capable during a single season, at the incomprehensible number of 1,000,000,000,000,000! In fact, naturalists tell us that "all organic beings, without exception, tend to increase at so high a ratio, that no district, no station, not even the whole surface of the land or the whole ocean would hold the progeny of a single pair after a certain number of generations." The productive power of a single thistle, mullein, or turnip is equally wonderful. Do not the roots of trees possess something of this exuberance of life? We trim their branches not only without injury, but with the most beneficial effects; may not the roots be "purged" without more fatal results? That too much may be removed from either top or root no one can doubt; but if all the roots of "E. L.'s" trees could be exposed to view perhaps he would see that the "thousands" which were broken by his four-inch furrow would bear but a small proportion to the whole; possibly no larger than that of an ordinary trimming to the whole amount of the branches. The question of the expediency of ploughing orchards is one on which men differ. They differ also as to manuring, trimming, &c.—Trees in grass on our old farms seldom bear well. Top-dressing is advised by some.—Others think we ought to take a hint from

nature's process in the woods, and mulch our trees. Others still keep them under cultivation—some using a plough, others the cultivator or harrow.

One of the most successful orchardists in New England, Capt. Geo. Pierce, of Arlington, Mass., near Boston, in reply to a question as to the secret of his success, said, "I prepare and till my ground well, keep off and destroy caterpillars, canker-worms, web-worms, prune my trees myself, &c.; in brief, I comply with all the conditions, so far as I know them, of a good apple crop, and I get one annually, while my neighbors, failing to do so, have become discouraged, and are, and have been, cutting down their trees." He uses coarse wild meadow hay for mulch under his trees, and raises squashes between the rows.

Ploughing or not ploughing is only one of the conditions of a good apple crop; and the good or bad effects of this operation depends on so many circumstances of soil and of subsequent and previous management, that we do not suppose that any one rule can be adopted for general practice. Suppose one orchard to be founded on a rock or some impervious subsoil, but a few inches below the surface; and another to be planted in deep mellow earth, like the western "openings," where a plough may be put in "to the beam" clear up to the trunk or stump of the scattering oaks. Now in ploughing these two orchards might not the effect be very different? In one case, an ordinary furrow might sever nearly every root, in the other case but few might be disturbed.

No one with "half an eye" for fruit trees can travel through the country without noticing the great difference between the appearance and fruitfulness of cultivated and uncultivated orchards. Indeed we have been forced to the conclusion that it is useless to set an orchard in grass land on the old farms of New England. The idea of the spontaneous production of apples must be abandoned. If we would raise fruit we must work for it, as we work for a crop of corn or a crop of vegetables. Not that a tree should be cultivated just as we cultivate a hill of corn or a bed of beets, but the peculiarities of each must be considered and its wants supplied.

If our correspondent will plant corn, potatoes, squashes, or other boed crops, with manure enough to secure a fair yield, we shall expect his trees will show by both fruit and foliage that they are not "ruined."—*New England Farmer.*

For the "American Farmer."

Deep or Shallow Ploughing.

CLIFTON, Fairfax Co., Va., Aug., 1868.

MESSENGERS EDITORS: The letter on this subject, written by a Pennsylvania Quaker farmer and copied in your last number, requires to be sifted to avoid the adoption of false theories. We have not the least doubt that the experiment made by his father to plough 12 inches deep, *at once*, turned out to be a disastrous one. Deep culture ought to be obtained *gradually*, or if it should be desirable to do it at once, as the farmer's father did, it ought to be done in connection with a heavy coat of manure, or, better, with a double amount of lime or marl. (Lime or marl are decidedly the most effective fertilizing agents on new soil.) We are positively sure that that the farmer's father did *not* proceed as above, but thought that if he only turned his land 12 inches, he had done *all* that was required to obtain a favorable result. As we have stated in another article, we have ourselves seen large fields ruined for years to come, by the practice of the farmer's father.

The farmer also denies that "the system of farming pursued in those days has produced the evil consequences attributed to shallow ploughing," &c. He asserts on the contrary that "that system has doubled and trebled the produce of Chester, Delaware, and Newcastle counties, and advanced the price of land from \$18 per acre to \$150 and on upwards." We admit that the above mentioned counties are in a better state of culture than most others in Pennsylvania, but has the farmer taken in due consideration that the subsoil of said counties is naturally very favorable, and does the farmer know, *for certain*, that their crops would not be increased by deep culture and subsoil drainage? We are bold to assert, that in spite of the good crops raised in these counties, they could be doubled and trebled by judicious deep culture and subsoil drainage.—There is no stand still possible in agriculture—we have either to advance with the time or we are going backwards. The system advocated and followed by the farmers of these counties *has been* a very good one once at its time, but does not come up to the requirements of the present age. The rise of the land in value, as mentioned, is not occasioned by the result of their farming operations *alone*, but has *also* to be attributed to the increase of

population, which necessitates increased demand for land. That much for the counties of Chester, Delaware and Newcastle. In regard to the greater part of the country at large, we still assert, and are able to prove, that shallow culture, without sufficient drainage and manure, has been the ruin of the land! In olden time there was some excuse for this inferior mode of farming, but since men like Liebig, Law, Boussingault, Nesbit and others, have made agricultural chemistry their study, and brought light into the darkness we until then were groping in, we have no excuse for adhering to old prejudices.

L. A. HANSEN.

Winter Oats.

BALTIMORE Co., Md., Aug. 7, 1868.

Editors of American Farmer:

Your letter of enquiry relative to winter oats is received. I suppose you mean oats sown in the autumn that will withstand the winter frosts. I have sown oats on the last snows in February, (the land prepared in the autumn.) The result was a heavy yield and a gain of about ten days in maturing. Loudon says, "In some parts of Ireland, and especially in the county of Dublin, the Friesland oats is sown in autumn, and the advantage is, they ripen nearly a month sooner than those sown in spring, an important object in a moist climate." An intelligent Irish farmer has just called on me, and in the course of conversation on the subject of oats, &c., he remarked that the early and late Blanter, or Golden Grain Oat, is extensively grown in Ireland, and that it is sown in the autumn.

Oats are more tender than wheat, rye or barley, but, like those cereals, by repeated fall sowings I believe our common oat may be grown with increased profit by autumn seeding. Were I to try the experiment, I would seed about the first week in September, and instead of covering with a harrow, use the Gang or Eschelon plough, covering the seed two and a half inches deep; and for additional security against frost, sow about three pecks of buckwheat per acre, which will be cut down by the first October frost, and act as a mulch and shield the tender oat plants.

By writing to Messrs. J. M. Thorburn & Co., seed merchants, John street, New York, those Irish oats I have named can probably be obtained.

R. SINCLAIR.

When to Plough under Clover?

A few weeks ago an Ohio subscriber of the *Agriculturist* wrote me in regard to the best time to plough under clover for manure. I wrote him that I had little practical experience in the matter, but theoretically the best time was a week or ten days earlier than it should be cut for hay. Dr. Voelcker's investigations [Journal of the Royal Agricultural Society, Vol. 3, Part 1, 1867] indicate that when clover bursts into flower there is no further accumulation of nitrogen, but that, on the other hand, there is a rapid formation of sugar and other nutritious carbonaceous substances. To cut clover for hay, therefore, as soon as it bursts into flower, would be a wasteful practice, but it is just the time to plough it under. We get no more nitrogen by allowing it to grow longer; and the more succulent it is, the more rapidly will it ferment and decay in the ground. I wrote to Mr. Geddes, one of the earliest and most enthusiastic advocates of clover, requesting his opinion on the point. In reply he said: "Plough under the clover when it is at full growth. But your question can much better be answered at the end of a long free talk, which can best be had here. I have many times asked you to come here, not to see fine farming, for we have none to show, but to see land that has been used to test the effects of clover for nearly 70 years. On the ground, I could talk to a willing auditor long; if not wisely. I am getting tired of being misunderstood, and of having my statements doubted when I talk about clover as the great renovator of land. You preach agricultural truth, and the facts you would gather in this neighborhood are worth your knowing, and worth giving to the world. So come here and gather some facts about clover. All that I shall try to prove to you is, that the fact that clover and plaster are by far the cheapest manures that can be had for our lands has been demonstrated by many farmers beyond a doubt—so much cheaper than barn-yard manure that the mere loading of and spreading costs more than the plaster and clover. Do not quote me as saying this, but come and see the farms hereabouts and talk with our farmers."

Of course I went, and had a capital time. Mr. Geddes has a magnificent farm of about 400 acres, some four miles from Syracuse. It is in high condition, and is continually improving, and this is due to growing large and

frequent crops of clover, and to good, deep ploughing, and clean and thorough culture.

We drove round among the farmers.—"Here is a man," said Mr. G., "who run in debt \$45 per acre for his farm. He has educated his family, paid off his debt, and reports his net profits at from \$2,000 to \$2,500 a year on a farm of 90 acres; and this is due to clover. You see he is building a new barn, and that does not look as though his land was running down under the system." The next farmer we came to was also putting up a new barn, and another farmer was enlarging an old one. "Now, these farmers have never paid a dollar for manure of any kind except plaster, and their lands certainly do not deteriorate."

From Syracuse I went to Geneva, to see our old friend John Johnson. "Why did you not tell me you were coming?" he said. "I would have met you at the cars. But I am right glad to see you. I want to show you my wheat, where I put on 250 lbs. of guano per acre last fall. People here don't know that I used it, and you must not mention it. It is grand."

I do not know that I ever saw a finer piece of wheat. It is the Diehl variety, sown 14th September, at the rate of 1½ bushels per acre. It is quite thick enough. One breadth of the drill was sown at the rate of 2 bushels per acre. This is earlier, "but," said Mr. J., "the other will have larger heads and will yield more." After examining the wheat we went to look at the piles of muck and manure in the barn-yard, and from these to a splendid crop of timothy. "It will go 2½ tons of hay per acre," said Mr. J., "and now look at this adjoining field. It is just as good land naturally, and there is merely a fence between, and yet the grass and clover are so poor as hardly to be worth cutting."

"What makes the difference?" I asked.

Mr. Johnson, emphatically, "Manure."

The poor field did not belong to him.

John Johnson's farm was originally a cold, wet, clayey soil. Geo. Geddes did not need draining, or very little of it. Of course, land that needs draining is richer, after it is drained, than land that is naturally drained. And though Mr. Johnson was always a good farmer, yet he says he "never made money until he commenced to drain." The accumulated fertility in the land could then be made available by good tillage, and from that day

to this his land has been growing richer and richer. And, in fact, the same is true of Mr. Geddes' farm. It is richer land to-day than when first ploughed. And yet there is one field that for seventy years has had no manure applied to it, except plaster. How is this to be explained? Mr. Geddes would say it was due to clover and plaster. But this does not fully satisfy those who claim (and truly) that "always taking out of the meal tub and never putting in, soon comes to the bottom." The clover can add nothing to the land, that it did not get from the soil, except organic matter obtained from the atmosphere, and the plaster furnishes little or nothing except lime and sulphuric acid. There are all the other ingredients of plant-food to be accounted for—phosphoric acid, potash, soda, magnesia, etc. A crop of clover, or corn, or wheat, or barley, or oats, will not come to perfection unless every one of these elements is present in the soil in an available condition. Mr. Geddes has not furnished a single ounce of any one of them. Where do they come from? *From the soil itself.* There is probably enough of these elements in the soil to last ten thousand years; and if we return to the soil all the straw, chaff and bran, and sell nothing but fine flour, meat, butter, etc., there is probably enough to last a million years, and you and I need not trouble ourselves with speculations as to what will happen after that time. Nearly all our soils are practically inexhaustible. But of course these elements are not in an available condition. If they were, the rains would wash them all into the ocean. They are rendered available by a kind of fermentation. A manure heap packed as hard and solid as a rock would not decay; but break it up, make it fine, turn it occasionally so as to expose it to the atmosphere, and with the proper degree of moisture and heat it will ferment rapidly, and all its elements will soon become available food for plants. Nothing has been created by the process. It was all there. We have simply made it *available*. So it is with the soil. Break it up, make it fine, turn it occasionally, expose it to the atmosphere, and the elements it contains become available.

I do not think that Mr. Geddes' land is any better, naturally, than yours or mine. We can all raise fair crops by cultivating the land thoroughly, and by never allowing a weed to grow. On Mr. Lawes' experimental wheat

field the plot that has never received a particle of manure produces *every year* an average of about 15 bushels per acre. And the whole crop is removed—grain, straw, and chaff. Nothing is returned. And that the land is not remarkably rich is evident from the fact that some of the farms in the neighborhood produce, under the ordinary system of management, but little more wheat, once in four or five years' than is raised *every year* on this experimental plot without manure of any kind.

Why? Because these farmers do not half work their land, and the manure they make is little better than rotten straw. Mr. Lawes' wheat field is ploughed twice every year, and when I was there the crop was hand-hoed two or three times in the spring. Not a weed is suffered to grow. And this is all there is to it.

Now, of course, instead of raising 15 bushels of wheat every year it is a great deal better to raise a crop of 80 bushels every other year, and still better to raise 45 bushels every third year. And it is here that clover comes to our aid. It will enable us to do this very thing, and the land runs no greater risk of exhaustion than Mr. Lawes' unmanured wheat crop.—J. HARRIS in *Am. Agriculturist*.

SALT AND LIME TO PREVENT GRAIN FROM LODGING.—A correspondent says:—"Two years since I noticed in one of my agricultural papers, that a mixture of salt and lime would stiffen the straw of the growing wheat, and to a certain extent prevent it from lodging. I resolved to try the experiment. I made a mixture in the proportion of two parts (weight) of lime to one of salt. I permitted the mixture to lie in the heap some three or four weeks before applying it. I then spread it over a part of a field at the rate of a ton and a half to the acre. The result was, that in that part of the field, my wheat all stood well, while in the remainder it all went down before the heads were entirely filled. I need not tell you how much easier the former was to cut than the latter. The yield was decidedly better, and in addition to these advantages, I found the clover, on the part to which the mixture had been applied, larger and finer than where it had not been.—*Nat. Ag. and Penn. Farm. Journal.*

It is a mercy to pray, though I never have the mercy prayed for,

Hints from the London Horse Book.**FOOD.**

1. All horses must *not* be fed in the same proportions, without due regard to their ages, their constitutions, and their work. Because the impropriety of such a practice is self-evident. Yet it is constantly done, and is the basis of disease of every kind.

2. Never use bad hay on account of its cheapness. Because there is not proper nourishment in it.

3. Damaged corn is exceedingly injurious. Because it brings on *inflammation* of the bowels, and *skin diseases*.

4. Chaff is better for old horses than hay. Because they can chew and digest it better.

5. Mix chaff with corn or beans, and do not give the latter alone. Because it makes the horse chew his food more, and digest it better.

6. Hay or grass alone will not support a horse under hard work. Because there is not sufficient nutritive body in either.

7. When a horse is worked hard its food should chiefly be oats; if not worked hard, its food should chiefly be hay. Because oats supply more nourishment and flesh-making material than any other kind of food. Hay not so much.

8. For a saddle or coach-horse, half a peck of sound oats, and eighteen pounds of good hay are sufficient. If the hay is not good, add a quarter of a peck more oats. A horse which works harder may have rather more of each; one that works little, should have less.

9. Rack feeding is wasteful. The better plan is to feed with chopped hay, from a manger. Because the food is not then thrown about, and is more easily chewed and digested.

10. Sprinkle the hay with water that has salt dissolved in it. Because it is pleasing to the animal's taste, and more easily digested. [A teaspoonful of salt in a bucket of water is sufficient.]

11. Oats should be bruised for an old horse but not for a young one. Because the former through age and defective teeth, cannot chew them properly; the young horse can do so, and they are thus properly mixed with the saliva, and turned into wholesome nutriment.

12. Grass must always be cut for hay before the seed drops. Because the juices that ripen the seed are the most valuable part of the hay. If they are sucked out by its ripening and dropping, the grass *will not turn into hay*, but will only wither and grow yellow.

13. Vetches and cut grass should always be given in the spring to horses that cannot be turned out into the fields. Because they are very cooling and refreshing, and almost medicinal in their effects; but they must be supplied in moderation, as they are liable to ferment in the stomach if given largely.

14. Water your horse from a pond or stream, rather than from a spring or well. Because the latter is generally hard and cold, while the former is soft, and comparatively warm. The horse prefers soft muddy water to hard water, though ever so clear.

15. A horse should have at least a pail of water, morning and evening; or (still better) four half-pailfuls, at four several times in the day. Because this assuages his thirst without bloating him. But he should not be made to work *directly* after he has had a *full draught* of water; for digestion and exertion can never go on together.

16. Do not allow your horse to have warm water to drink. Because, if he has to drink cold water, after getting accustomed to warm, it will give him the *colic*.

17. When your horse refuses his food, after drinking, go no farther that day. Because the poor creature is *thoroughly beaten*.

ACCIDENTS.

When a horse falls whilst drawing a vehicle—

1. Jump down and hold the animal's head, to prevent him dashing it about to his own injury.

2. Loosen the check-rein (if you are so foolish as to use one) and the parts of the harness which fasten on the vehicle.

3. Back the carriage, so as to get the shafts and traces clear.

4. Steady and support the horse's head, and excite him, with hand and voice, to rise.

5. When you have got him up, pat and encourage the poor animal, and see if he is wounded, or otherwise injured.

6. Let him stand still a short time to recover himself, and then proceed gently and with greater caution than before.

Why was it commanded in the Law "Thou shalt not curse the deaf;" because it is an extremely unjust and cruel thing to attack those, who, since they do not hear the accusations brought against them, have not the means of defending themselves.

The Stomach.

The wisdom of the Almighty Creator has provided animals with stomachs of different kinds, suited to their food and habits of life. Some chew their victuals and then swallow it, while others swallow it first and then chew it over at leisure. As the Almighty never acts without reason, and always proportions the means to the end, we are led naturally to conclude that each of these methods is that most fitted to the animal's necessities, and best adapted to the circumstances under which it is placed in the great plan of nature; and so we shall find it on consideration.

Sheep, for instance, being naturally a timid and very defenceless order of animals, are provided with a stomach divided into four parts. By means of this they are enabled, when they meet with a good piece of pasture, to crop it hastily, and swallow it almost whole—it then passes into the first division of the stomach. When the feeding is completed, a portion of this substance is passed from the first to the second division of the stomach; here it is rolled into the form of a ball, and returned to the mouth to be ground smaller. After this process, it is once more swallowed, and it passes into the third division of the stomach, and from that to the fourth. By this arrangement these timid animals are enabled to gather and swallow their food whenever they have an opportunity, and to chew it over at their leisure.

But the horse is adapted to be the servant and friend of man, and another organization and arrangement has been wisely provided for him. His stomach is small in proportion to his size. It is considerably less than man's; he is consequently unable to take much food at a time. He requires to be more often fed; but by this means he is almost always enabled to be at his master's service, as we shall presently show.

To explain our present subject, it will be sufficient to say that the front of the horse's chest contains his *lungs*, by which he breathes. Behind them, separated only by a thin kind of skin, is the *stomach*, destined to receive and digest the food. Each of these organs become larger when in use; the lungs occupying more room when the animal is moving about, and breathing more quickly. The space they occupy is then so filled, that only one of them can be distended at a time. The horse can swell out his lungs, and breathe hard, trot, or

gallop fast, provided his stomach be empty; he can fill it with safety when at rest, or nearly so, till the food is digested. But if they are both full, the greatest danger is to be apprehended; the horse is sure to be "blown" almost immediately, because he has no room to breathe, and apoplexy may cause the animal to drop dead in a minute.

We have mentioned that the horse's stomach is small compared with his size; and from this we may learn that he is not able to eat much at a time without injury to himself. He is apt to do this sometimes, especially when he has been kept long at work without being supplied with food. When brought home his small stomach is crammed full before any part of it is turned into healthy nourishment to recruit his exhausted frame; he continues eating on, and the diseases called the staggers, megrims or apoplexy are the dangerous and generally fatal result.

We may take a hint from this, and see that no horse is allowed to get at an unlimited supply of food. A proper quantity should be given, and no more—enough to satisfy his requirements, and then to allow proper time for him to digest it. Many a horse has been killed from a fit brought on by the corn-bin having been left open at night, thus giving him an opportunity to gorge himself to death with the tempting food. Recollect this rhyme, which may perhaps serve to recall an important principle to mind:

"Full feed, then rest;
Often feed does best."

Horses that are obliged to be at work a long time together, as in the case of carter's, ploughmen's, carriers' or cab horses, should never leave the stable without a *nose bag*, and the materials to fill it. When the horse stops for awhile, it is put on, and he enabled to chew a few mouthfuls—enough to prevent his becoming exhausted. His strength is kept up; he is not able to eat too much, so as to hinder his capacity to work, and the danger of his overgorging himself in the stable is greatly lessened. This useful implement has, from the above causes, saved the lives of hundreds, nay, thousands of horses.—*London Horse Book.*

Engage not hastily, as a party, in a difference between others, but reserve thyself impartial and unengaged, that thou mayest moderate between them.

Effects of Weathering on Soil.

We are indebted to our ably conducted neighbor the *Baltimore Leader*, for the following: on the effects of *weathering* or exposing soil to the influence of atmospheric changes. What we give is a portion of an article headed "Soil," the length of which forbids us to copy in full.

"Prominent among the atmospheric influences are those of the rain which falls upon the surface. The action of this can be seen in the inequalities of bare rocks. The constant washing of this falling water detaches, by mere abrasion, a certain quantity of finely divided rock, which lays the foundation of soil. It is indeed only the foundation of soil; for this mechanical subdivision, however minute it may be, can produce nothing but rock in a state of minute subdivision. Chemical changes are needed to convert this into soil. A certain quantity of the necessary chemical influences can be derived from the rain itself. This always contains carbonic acid and some salts which act upon the minutely pulverized rocks, and aid in their conversion into soil.

"Changes in temperature are also important. Any one who has seen a nail loosened in a plank by the continual expansion and contraction due to these changes of temperature, can readily understand how, even in a tropical clime, the expansion induced by the heat of the sun by day, and the contraction brought about by the cooling of the earth by night, must powerfully aid in the disintegration of the rocky basis of the soil. In such climates as ours, however, when the difference of temperature between summer and winter is so great and decided, this effect must be much increased. The action of frost greatly assists this disintegration. It at once contracts the solids and expands the liquids in the soil, and the consequence is an amount of fissuring and subdivision which is produced by no other agent.

"Another important action of temperature is its influence upon chemical changes. As a general rule, the higher the temperature, the more rapid are these changes. Hence, a mode of tillage which will allow the deep heating of the earth by the summer sun, will greatly increase the rapidity of the chemical actions on which the production of fertile soil depends. Hence frequent stirring of the earth, deep ploughing, thorough exposure of the soil

to all atmospheric influences, must tend to its improvement. Independently of this, it is evident that if a man who has been cultivating his land to a depth of five inches, can succeed in deepening it to fifteen inches, he has just three times as much nutritive matter to depend on as he had before.

"Science, however, as well as experience, informs us that this must not be done suddenly. We have already seen that the unweathered rock is barren precisely in proportion to the extent of its withdrawal from the fertilizing influences of which we have been speaking. Hence the man who drives down his plough and turns up on the surface the raw sub-soil, must expect to see, as a primary result, the diminution of productiveness of his soil. He who goes gradually and cautiously to work, deepening his soil a little every year, will have the happiness of witnessing a gradual and steady increase of fertility.

"The chemical changes are too complex to be enumerated here. Suffice it to say, that they consist in the action of certain acids and salts upon the rocky skeleton of the soil. This rocky skeleton, as we have seen, is of itself barren, but contains the elements of fertility, which can only be developed by the chemical changes of which we have been speaking. For example, feldspar, a very common constituent of soils, contains a great deal of potash, but so long as it continues feldspar, that potash is as effectually locked up from the plants as it was in the solid mass of rocks from which these fragments have been detached. It is liberated by acids and salts, to which we have alluded. Among the former, carbonic acid plays an important part, and whatever increases its quantity, or brings it in close contact with the small fragments of rock on which it is to operate, increases the fertility of the soil. Hence the value of vegetable matters in the land; hence also, in part, the well known action of long unfermented manure in lightening heavy soils.

"To bring about the changes in vegetable matter, upon which the evolution of carbonic and other acids depend, it is necessary to provide for free access of atmospheric air. This substance contains oxygen, which is essential to all the fermentation that generates the acids under consideration. If it be denied access to the soil, it matters not how much decomposable material may be present; the

only result will be a sour, cold, barren soil. If in a clay sub-soil water be allowed to stand a few inches below the surface, air cannot penetrate, and none of the changes which have just been shown to be so essential to vegetation can go on. So long as these conditions remain, manure of all kinds will be simply wasted. It cannot undergo the necessary modifications, and its application can only result in disappointment. If, however, a field of this soil be underdrained, an immediate change is visible. The water sinks away and leaves innumerable shrinkage cracks, through which the air and rain can penetrate, so that the formerly hard, impervious clay, is now reached by the agencies of decomposition, and is gradually disintegrated into fertile soil. Deeper tillage now becomes easier and safer. Year after year the available quantity of soil is increased, and the possibility of the improvement of the land by mere cultivation is demonstrated. Manifestly, if a farmer can add ten per cent. of available plant-food to his soil every year, it is the same thing as putting ten per cent. on it in the form of manure, so far as the immediate results are concerned. Of course, this is added at the expense of the reserved capital in the sub-soil. Hence deep tillage and heavy manuring ought always to go together.—The results, then, are the best that can be attained by the art of the agriculturist."

...
TANNING.—Some time since was the inquiry, How to tan skins with the hair on? Any one can succeed in doing so by taking two parts saltpetre and one of alum, pulverizing them well together, spread the skin carefully fur side down, before it has got dried, apply the mixture evenly, being careful to touch every part, in sufficient quantity to thoroughly wet the surface after it dissolves; double the flesh side and roll it up closely, put it in a cool place out of the way of the frost, and let it remain three or four days, perhaps more, according to the thickness, then unroll, and when it gets nearly dry, with a dull knife remove the fat that may adhere in spots, and a little rubbing may make it pliable and fit for use.—*Boston Cultivator*.

...
The Prairie Farmer is informed that the hop prospect in Wisconsin is highly promising. No hop aphid has appeared.

Points Indicative of a Good Cow.

Among practical dairymen there has long existed a number of rules, by which the milking properties of a milk cow are judged of; and as these rules are the results of long experience, transmitted from one generation to another, they contain, when collected together, the sum of all that information which is known by the name of practical knowledge. That this knowledge is correct in a general way, cannot be questioned, because it is the result of actual experiments repeated and confirmed not only for a long period of time, but in a great variety of ways, and under circumstances so different, that any errors must long ere now have been detected. Notwithstanding the existence of these established rules, of judging, by external signs, of the qualities of an animal suitable for the dairy, there are very great differences in the modes and results of applying them practically.—Some men have a natural turn or peculiar adroitness for minute and careful observation, which others are devoid of; and consequently the former are far more successful in rearing, selecting, or buying dairy stock, than the latter; and hence, too, we find that to these instinctive judges of stock, a glance or a touch will reveal a greater amount of information than the closest inspection of others. While it is necessary, however, that there should be long and habitual familiarity with recognized data in order to their being successfully applied in practice, they at the same time furnish a set of rules, a knowledge of which is of very great advantage to those who have been prevented from acquiring an experimental acquaintance with the points to which such rules refer, either by youth or want of opportunity.

The points to be attended to in judging of a good milk cow, are, by universal consent, considered to be shape and size of the animal, both as a whole, and in detail; texture of the skin and hair, development of the lactiferous parts; temperament or habit of body and disposition; and finally, strength or endurance of constitution. A maximum development of these points, makes out a first class cow of the breed to which she belongs; but the milking properties differ in endless variety, not merely as these points are prominent or the reverse, but also in proportion to the circumstances of climate, soil and treatment.

SHAPE.—Whatever may be the breed to

which a cow belongs, there are certain points of configuration which are considered essential as regards her milking properties. There may be, and are frequently, great discrepancies between the one and the other; but still, generally speaking, the rule holds good that, all things being alike, the cow which approaches nearest to a certain standard will be the best milker. The head must be rather lengthy, especially from the eye to the point of the nose; the nose and muzzle should be cleanly cut, and free from thick skin or fleshy lumps; the cheek bones thin, and, in like manner, devoid of thick skin or flesh (not thick chapped;) eye prominent, of a placid and benignant expression, with little of the white exposed to view. If horned, the horns should taper gradually to a point, and have a clean surface, free from rugosities; the breed will determine the shape and set of the horns. The neck should be long, thin, and free from loose skin. A good milk cow may be deer or ewe-necked, but never bull-necked. The chest and breast should be deep, rather than broad, and the brisket should project forwards and downwards; and, whether large or otherwise, should be round, well-shaped, and without loose folds of skin depending from it.

The girth, behind the shoulders, moderate, and arising more from depth than breadth of chest; shoulders rather narrow at the top; back bone on a line with the shoulder top; ribs arched, and well home to the haunch-bones, which should be wide apart, and form a straight line across, neither depressed in the centre, at the lumbar vertebrae, nor drooping at the extremities; hind-quarters lengthy, and the rump, or tail-top, nearly on a line with the back-bone; thighs rather thin, but broad, well spread, and giving plenty of room for the udder; belly projecting outwards rather than downwards, with plenty of room for food; the udder should be large in a lineal direction, that is, well backward as well as upward, between the hind legs and forward on the belly; also broad in front, filling up the space between the lower flanks, but rather short vertically; a deep hanging udder, from its swinging motion, being always the cause of great fatigue to the animal when walking; the teats should be moderately long, straight, and equal in thickness from the udder to the point, and also at considerable and equal distances from each other; the two front teats should be well apart, and the direction of all

four should be outward. When full of milk, the udder should be greatly enlarged in size, and, when newly emptied, shrink in a corresponding degree, and the skin gather into soft creases. The mammary glands, running on each side of the belly, large throughout their whole course, and swelling into large puffs at or near their junction with the udder; thigh veins, also large and easily felt by the hand.

Of all these shapes the more important are the long, finely-formed head; long, thin neck; rump nearly on a line with the back-bone; broad quarters, long udder from back to front, and large veins underneath the belly, and downwards, from the loins and thigh to the udder. When seen in front, the body of a good milk cow should present the appearance of a blunted wedge, the apex of which is the breast and shoulder. Seen from behind, she should present a square well-spread shape. Seen sideways, she should be lengthy, but not lanky.—*Rural American.*

First General Assembly of the Agriculturists of France.

Translated from the Journal D'Agriculture Pratique, Paris.

This Society held its first meeting on the 12th of May, at the Salle Herz. Four departments only were represented, but letters were received from Algeria, signifying its wish to be represented.

M. Drouyn de L'Huys was chosen President.

The list of members amounted to 867.

A vote of thanks was offered to M. Lecouteux for his untiring zeal and devotion to the interests of the Society, and to whose exertions in the cause of enlightened agriculture the Society owes its existence.

M. Lecouteux responded in an eloquent address, in which he set forth the objects of the Society, but we have only room for the following extract:

GENTLEMEN: For the first time in seventeen years, there is represented in Paris a grand agricultural association, the result of individual exertion, that is to say, of the principle to which all our industrial pursuits must owe their chief progress. This Society is called the "Society of the Agriculturists of France." Its members come from among the agriculturists, proprietors, farmers, men of learning, economists, legislators, writers, and, indeed, all who hope to bring about a state of

things to which French agriculture aspires to arrive, when men shall meet together to exchange views and make the acquaintance of each other, discuss ways and means of making progress, never forgetting the ties of individual responsibility which attach them to all the other interests of their country.

After the regular business was disposed of, the Society adjourned to the Grand Hotel, when a banquet was provided and attended by 150 members.

After the cloth was removed, toasts were drank. The following, by M. Drouyn de L'Huys, elicited the greatest applause:

GENTLEMEN: I have the honor to propose, the prosperity of agriculture and success to our work.

Agriculture is the noblest of professions, stable as the earth, which is its base, pure as the sun which enlightens, free as the air which gives it life; it ripens reason, fortifies the character, and elevates the soul toward the Creator by the continual spectacle of the miracles of creation; agriculture is seated upon the granite upon which the State reposes.

Permit me, gentlemen, to reproduce here a beautiful thought not long since expressed by a preacher, at the risk of only giving you a faint reflection of his brilliant eloquence.

After having alluded to the haughty expression of Louis XIV—"I am the State," ("L'Etat, c'est moi")—he added, that if any body in France might claim this distinction, it would be the peasant. Is it not from the bosom of the healthy and vigorous population of the country that comes the soldier who defends the country, the husbandman who furnishes the food for the nourishment of the body, and the priest who attends to the good of the soul? Who is this peasant, then, but the State itself? It is glorious to serve in such a cause. Nothing gives me greater satisfaction or inspires me with a more grateful sense of the honor done me than to be chosen to preside over the labors of this Society.

We have already rallied under its flag a considerable number of adherents; our staff is formed; let us not halt by the way. The agricultural campaign is about to open; meetings, committees, agricultural societies, the care of our private affairs, or the attractions of repose will soon recall us to our several departments. Let our chief business be to propagate the maxims of agriculture; may

even our repose be fruitful. It is by indefatigable recruiting every hour, every day, that we shall extend our ranks. Money is the sinew of war, and not less so of agriculture. In our army, by a rare circumstance, the greater the number of our soldiers the better filled our treasury.

Let us drink to the prosperity of agriculture and the success of our work.—*Journal of Agriculture.*

Hog Pens.

Every farmer knows how offensive a common sized hog pen or yard becomes during the hot weather of summer, and how during a rainy time it becomes in fact a swamp of mud. To remedy this those who have abundance fill up with straw or other litter, ashes, &c., and yet the remedy is only partial; the smell is not disposed of, and the animals are full half the time wading in mire.

The following manner of building a pen we have known to remedy the evil completely: Take two pieces of 6x8 timber each fourteen feet long; dress one end of each in form of a sled runner, then lay them parallel eight feet apart, with the six inch edge on the ground; now take 4x4 scantling and halve or tenant in crosswise one piece at each end, and one foot from the ends of the runners, leaving the four inch strips one and one-half inches below the level line of the upper side of the runners; next lay a floor of one and one-half inch plank over one-half of the surface, say eight by six feet. Next mortice in 4x4 scantling at each corner and midways for posts on which to nail boards for the enclosing. Let these four by four posts be flush with the outside line of the runners; then nail inch boards on the inside, dividing the whole with a cross fence or partition on a line of the floor. Roof over the floored part, form the trough across one end or side of the floored part, and with a slide door shut your hogs in or out of that part—and your pen is completed.

Now you ask where is the benefit of this pen over any common one with posts set in the ground? We answer, you can hitch a team to it and move it to any part of your grounds, placing it from time to time where most convenient to feed, etc., besides enriching various spots of ground and leaving the animals a dry place and fresh ground to work in.—*Ohio Farmer.*

A Triumph of Scientific Tillage.

The above is the title of a capital article in a late number of the *New York World*, descriptive of the farm of the late Professor James L. Mapes. We regret that we cannot republish it entire, word for word, for the benefit of our many subscribers South, who are "land rich and money poor." In all the basin of the Chesapeake bay, throughout Maryland and Virginia, with its unparalleled facilities to market and inexhaustible materials for manure, even greater results, and at half the cost, can be attained than those which have rewarded the enterprise and science of the late lamented Professor. The Mapes Farm, consisting of forty acres, two miles west of Newark, was purchased twenty years ago for \$4,000. It was so thin and poor that the original owner could not make his taxes upon it. The Professor took it, and by concentrating his energies, intelligence and capital upon forty instead of a thousand acres, he has produced the following results, as described by the writer in the *World*. Oh, that our Southern planters would shake off the pride of acres and do likewise!

"Does the Mapes Farm pay? Yes, it does, as well as any equal area in the country. For agricultural purposes alone these acres are now worth a thousand dollars each. The old house has been replaced by an elegant and spacious home. One finds pictures and carvings, broad galleries, well-filled alcoves and pleasant grounds, all bought with what came from the soil. The gross income from the sale of fruits and vegetables is from six to ten thousand a year, the average coming to about eight thousand. The labor bill is about sixteen hundred, and the expenditure for manures from three to four hundred. This leaves a net profit of six thousand, ten per cent. on sixty thousand. The original cost of the tract was a hundred and twenty-five dollars an acre, or four thousand dollars.

"All the improvements we have described, the removal of stones, the draining, the subsoiling, the generous manuring, the spacious home, with its comforts, have been developed from the soil itself. In other words, these forty acres, such as we have described, have raised a family from comparative penury to opulence, surrounded them with every appointment of comfort and taste, and are today a thousand per cent. more valuable as a

farming property than when the Professor first began to carry out upon them his "book-farming" ideas of hillside drainage, deep tillage and special manuring. There are now in thrifty condition on this place seven thousand pear trees. One row of thirty has often yielded, on an average, ten dollars from each tree a year. Bad weather in May has made the crop almost a failure this year. When the young trees are grown there may confidently be expected a dollar's worth from each tree on an average. The spaces between the rows are kept rich, often ploughed, and until the trees are ten years old, yield valuable crops. For instance, two hundred and fifty dollars' worth of rhubarb was sold this spring from three-quarters of an acre where the pear trees are six years old.

"In January, 1866, this model farmer died. God's finger touched him and he was laid to sleep beneath the sod he loved, in the bosom of the soil he had studied with so much enthusiasm. But his influence is not buried. While he lived he constantly reported to the world the results of his studies, and gave mankind the full benefit of his talents. These writings remain and the farm remains, the example and the proof of all, a perpetual and eloquent rebuke to all sneers about book farming. Let the skeptic who may believe that stage coaches are as good as cars, who believes that six inches of mellow earth are as good as twelve, who pools at such expressions as 'superphosphate,' 'sulphate of ammonia' and plant fruit in a 'progressed' state, visit the Mapes Farm and turn from the error of his ways and live."—*Turf, Field and Farm*.

LEARNING A TRADE.—The American Farmer's Magazine has an interesting article, showing the advantage to be derived by boys who expect to become farmers, from learning some kind of wood-workmanship, as carpentering, wagon making, coopering. The advantages urged are, the acquiring the skillful use of edged tools, a practical knowledge of the rules governing warping, and the means of preventing or remedying this, of the different methods of seasoning timber, of the internal structure of wood, and the differences in this respect in different varieties. The last advantage named by the article is the educating effects of such a training, which would be important and varied.—*Western Rural*.

Figures About Farming.

In his valedictory address before the New York State Agricultural Society, the President, J. Stanton Gould, made the following statement concerning the agriculture of the State of New York:

From the best information I can obtain from different counties in the State I believe that we cannot assume a higher percentage of profit on the agricultural investment of the State than three per cent.; very many of our most acute and observing farmers believe that the average profit of agriculture is only two per cent.

The average production of wheat to the acre in New York, in 1865 was 7.07 bushels of spring wheat, and 12.36 bushels of winter wheat; of rye, 10.17 bushels; of oats, 17.16 bushels; of barley, 16.27 bushels; of corn, 28.44 bushels; of potatoes, 98.86 bushels; of hay, 1.09 tons. That this rate of production is far below the actual capacity of the soil—that the cause of the failure is the farmer himself—is made clear by the actual results obtained by our best cultivators.

Hon. George Geddes, well known to this society as one of its ex-Presidents, has kindly furnished me with the average crops raised for three years by his son and six of his nearest neighbors. The crops of winter wheat was about 26 bushels; of oats, 50 bushels; of barley, 38.12 bushels; of corn, 45 bushels; of hay, two tons to the acre.

Ten years ago, the average yield of crops to the acre, in this State, in 1855, was—of spring wheat, 10.46 bushels; of winter wheat, 11.74 bushels; of rye, 17.86 bushels; of barley, 16.76 bushels; of corn, 21.02 bushels; of potatoes, 68.86 bushels; of hay, 0.96 tons.

These statements are well worthy of the most serious consideration of the Society.—They show that the average crops of the State are below those obtained by Mr. Geddes and his neighbors by more than one-half.

If the average production of the State should be raised to the measure of increase attained by Mr. Geddes and his neighbors, it would increase the annual value of our crops by the enormous sum of \$75,767,998!

It must not be forgotten that this great addition to our revenues would accrue without any increase of the sum which we already pay for interest on the cost of the land; for fences, for taxes, for insurances, for merchants' bills, and for tools and implements.

The extra cost of this increased revenue would be chiefly composed of manure and labor; these items, in English calculations, are generally assumed at one-third of the gross expenses of the farm; with us they would probably amount to one-half of the gross expenses, but to keep very far within bounds, let us assume that the cost of this augmentation of our crops is \$45,767,998; we then have left us, \$30,000,000 as clear gain, we have not only doubled our profits, which we may spend for our pleasure, but we still have \$8,000,000 left, which is sufficient to pay the whole of our State tax.

A Large Importation of Percherons.

We passed a pleasant hour on Friday last, inspecting a lot of magnificent Percheron horses, just arrived from France, for Mr. Wm. T. Walters, of Baltimore. Maryland has a herd of Devon cattle near Sykesville, that is certainly not surpassed by any in England. She may now boast of a stud of Percherons at Mr. Walters' farm near Baltimore, consisting of five stallions and eight mares equal to any in any breeding establishment in France. One of the stallions of the last importation, Morok, has probably not left his equal in Europe—in all points he is beyond the reach of criticism—he is a wonderful combination of enormous muscular power with all the elegant and graceful proportions of the Arab. Among the mares is a pair which, for power and action combined, are incomparable.—With such a stud, composed as it is of five stallions and eight mares, all of different families, yet all pure bred, Mr. Walters will be enabled to breed on *ad infinitum*, without the danger, so much dreaded by some of breeding "in and in," and if the importers of Percheron horses will come to an understanding we can see no reason for going back to France for fresh blood. Massachusetts, Ohio and Missouri have the stock. Mr. Ficklin and Dr. Thorn have also made importations. Let them all combine and we need no longer look abroad for this the most valuable of all the equine race for practical purposes.—*Turf, Field and Farm.*

Grape vines will do well on isolated trees about on the farm. If the grapes are not so large as that when the vines are pruned, they are not liable to mildew and require no attention.

The American Farmer.

Baltimore, September 1, 1868.

TERMS OF THE AMERICAN FARMER

SUBSCRIPTION TWO DOLLARS PER ANNUM.

RATES OF ADVERTISING:

Ten lines of small type constitute a square.

	1 Mo.	3 Mo.	6 Mo.	1 Year.
One Square.....	\$2.00	\$5.00	\$8.50	\$15.00
Half Column.....	8.50	20.00	35.00	60.00
Half Page.....	15.00	35.00	60.00	100.00
One Page.....	25.00	60.00	100.00	200.00

PUBLISHED BY

WORTHINGTON & LEWIS.

New Office, 4 South Street,

Near Baltimore Street,

BALTIMORE.

Maryland Agricultural College—Admiral Franklin Buchanan Elected President.

The *Baltimore Gazette* of August 5th says: "The Board of Trustees of the Agricultural College at their meeting last evening, unanimously elected Admiral Buchanan President of the College, *vice* C. L. C. Minor, Esq., resigned. The selection of Admiral Buchanan is the best that could be made for the interests of the institution. His executive ability, energy and capacity, had already been displayed in the organization of the Naval School at Annapolis, and we congratulate the institution on obtaining the services of a gentleman of so distinguished a character."

The *Hagerstown Mail*, in noticing the appointment, says: "It is said that the geniality of his manners and high administrative abilities will add greatly to the prosperity of this institution. The respective Chiefs of the late Confederate Army and Navy, are now at the heads of institutions of learning.—This is peace!"

If the College must lose the services of the able and estimable gentleman now at its head, nothing could be more fortunate than the appointment which the Board has been able to make, and which, we learn, has been accepted.

Admiral Buchanan's name and fame as a Naval Commander belong to history, and are not to be considered in relation to this appointment, except as giving assurance of qualities of the greatest value in organizing

and ordering the elements of the complicated system involved in such an institution as this College was designed to be.

As a citizen of Maryland, well known to her people, and having their full respect and confidence, he will be able to command for the College that hearty support at home, which, until it is well established, is its greatest necessity.

The Agricultural College.

The *Farmer's Gazette*, at Richmond, in a very friendly notice of our College, says with reference to lands appropriated for Agricultural Colleges: "We are pleased to know, however, that noble Maryland is a participant in these favors, and has now in full operation an Agricultural College worthy of herself."

Further, the editor kindly says, "Our good friend Worthington, of the *American Farmer*, is one of the Faculty, and this will be favorably accepted by the thousands of patrons of that valuable monthly."

We would say, in noticing this remark, that while we are connected with the College, we shall take special interest in all *American Farmer* boys who may be brought within its walls. Lest our agricultural profession should mislead any one, however, as to our special duties at the College, we owe it as well to others as ourselves, to disclaim both the credit and the responsibility of the agricultural working of the institution. Our duties lie strictly in another sphere. With the sincerest, heartiest interest in the experiment of Agricultural education, we are at the College, and elsewhere, as to agricultural matters,

"A chiel amang ye takin notes."

The fall term of the College begins on the 15th of September, when the new President enters on his duties.

The charges are \$250 for term of ten months—and sixty students within the State may have an abatement of \$75, the price of tuition.

Notice—The "*American Farmer*" for three months *gratis*.—To every new subscriber beginning with January, 1869, we will send the "*Farmer*" for three months (October, November and December, '68) *gratis*. Those wishing to avail of this offer, must remit the amount of their year's subscription, \$2, by the first of January next.

Agricultural Society's Grounds.

We learn, from the *Daily Sun*, that the purchase for the use of the Society of the site known as "the Pimlico property," "has been consummated by the payment of the money from the State appropriation and the delivery of a deed for the same." It is added that "this is said to be a surprise to the most of those who were present at the last meeting"—that is, at a meeting of the Executive Committee held on the 16th of July, when the President of the State Board of Trustees was requested to call a meeting of the Trustees on the 10th of September, "to take further action upon the selection of grounds for the use of the Society."

The selection of the Pimlico property was the very deliberate choice of the State's Trustees, who alone had any authority in the matter, after a great deal of careful canvassing of the merits of other places, and of Herring Run especially. The choice of the latter, the only place insisted on by those who opposed the former, would have lost the Society \$20,000—subscribed by citizens. The Trustees had directed a Committee to take the necessary steps to consummate the purchase of Pimlico and to make application at the Treasury for the State's appropriation to pay for it.

The Committee reported these facts to the Executive Committee at their meeting on the 9th of July, and also that the necessary papers had been prepared and signed by the parties to the sale and by themselves, and that they were about to call on the Comptroller for the necessary funds. At this meeting an attempt was made again to secure the Herring Run site, which was emphatically voted down.

The Executive Committee distinctly recognized and endorsed the action of the Board, by an act of extra-courtesy, appointing a committee to wait on the City's Trustees and asking their concurrence and co-operation with the State Board.

It was supposed now that the matter was definitely settled. Members of the Executive Committee and of the State Board who had taken an active interest in the selection of grounds were out of town next week, and others, who, to this time, had given themselves no concern about it, came in and joined in a vote to open again the whole question, by calling together the Board of Trustees "to

take further action upon the selection of grounds for the use of the Society."

The only excuse that can be given for such action is the refusal of the Trustees of the City to co-operate with those of the State.

For our own part, we are tired of coquetting with this very unimportant body of gentlemen, styled "the Trustees of the city fund." It is quite time to be done with this fiction they have tried to impose on themselves and other people, that they have really anything to do with this matter. The resolution from which they claim the authority they have assumed, is as follows:

"Resolved by the Mayor and City Council of Baltimore, That the sum of \$25,000 be and the same is hereby appropriated to the Maryland Agricultural and Mechanical Association; provided, however, that said amount shall be invested in lands and improvements suited to the purposes of said Association, and in the event of said Association ever becoming extinct, the said lands and improvements, and all enhancement or increased value thereon shall revert to the city of Baltimore, and that any and all lands and improvements purchased under this authority, shall be vested in a Board of five trustees, to be appointed by the Mayor, so that the city's interest shall be paramount to all others."

We suppose, that whenever the Agricultural Society shall have purchased "lands and improvements" suited to its purposes, and shall vest them in the Board of Trustees for the benefit of the city, in case of the "Association becoming extinct," the Comptroller of the city will find it his duty, under the resolution, to pay over the money to the Society. There are no circumstances under which he could pay it to these trustees.

Dr. Dadd.—Our valued contributor, Dr. Dadd, V. S., was one of the many who had the misfortune to have their premises overwhelmed by the dreadful flood of July, the water rising some twelve feet or more in his office on Calvert street. He has removed his quarters to the corner of Franklin and Howard streets.

"Extraordinary Application of Superphosphates to crop of 1868."—Attention is called to the article under this heading from the pen of Dr. David Stewart, as being very interesting to wheat growers at this time.

"Uses of Fruit." "Moral Ideas."

We find copied into the columns of one of our neighbors, an article headed "Uses of Fruit," credited to "F. K. Phoenix, in Rural American," of which the following is an extract:

"True, faithful horticulturists will therefore abstain from intoxicating beverages and tobacco, and do all they can to abolish them, utterly, as wholly inexcusable barbarisms, more in our path to-day than any other obstacles. To complete fairly the hideous trinity of American idol-curses, I must name one more, corsets—special folly and scourge of women."

Our opinion on this matter is, that "true, faithful horticulturists" should dig and manure well their ground, prune their trees, keep down weeds, and in all things faithfully *mind their own business*. Their "moral ideas" they should keep rather for their own guidance and that of their families, than be flinging them in the faces of people who are their betters.

We happen to take no pleasure, personally, in either of these "wholly inexcusable barbarisms"—these "idol curses,"—but our heartiest veneration is due to the memory of a man, to whose standard of excellence, in all that becomes a man, we do not hope to attain, and he *chewed tobacco*! We know many now, the latchet of whose shoes we are not worthy to unloose, who *smoke cigars*! We remember more than all, *One*, who furnished wine for a marriage feast, and who so ate and drank, as to give excuse to sanctimonious Pharisees, to call him "a gluttonous man and a wine-bibber."

There may be "true and faithful horticulturists" who stop their work, to cast a stone in each of these cases, but we are both afraid and ashamed; we would rather go on digging.

Of "Corsets—special folly and scourge of women,"—what shall we say? Only this, that silly girls who draw their laces too tight, are yet not so silly as he who writes such stuff. A foolish girl may be taught better by her mother, but what shall be done for a man who assuming to be a teacher of wisdom, deliberately writes himself an ass?

Bickford & Huffman's Wheat Drill.—This well known drill is still unrivalled. No one having a crop of thirty acres or more should dispense with its use. See advertisement.

Phosphatic Deposits of South Carolina.

We have forborne any notice of the remarkable discovery of phosphatic deposits in the neighborhood of Charleston, lest we might help to give currency to what seemed very exaggerated estimates of their value, and forward the aims of speculators. There is no longer, however, reason to doubt, that the truth has hardly yet been told of them, and of the great wealth, which underlies thousands and thousands of acres, along the Ashley river. They are known to contain millions of tons of fossilized bones, the tusks of elephants, mammoths, hippopotami, the teeth of sharks, and a multitudinous variety of irregularly shaped phosphatic nodules of animal origin, underlying the surface soil, and averaging in many places a foot in thickness. After removing the surface soil, quantities of brown phosphatic nodules worn into water holes and bearing the imprint of marine shells are first reached. Beneath this deposit is a stratum of stiff blue clay eighteen inches thick, and below this again another layer of the same thickness of bones and nodules—many of the bones being of enormous size and indicating a period of the world when the Ichthyosaurus, the Plesiosaurus and Megatherium lived and flourished and the sea covered many fathoms deep what has since become, either by gradual upheaval or by some sudden cataclysm, dry land. Below the last-mentioned stratum lies a bed of white marl unusually rich in phosphoric acid and which, therefore, also constitutes an excellent fertilizer, although less valuable than the superincumbent deposits of phosphates. Practical experience has demonstrated the fact that the phosphatic deposits of South Carolina are of unusual commercial importance. It speaks well for the enterprise of our citizens that a number of gentlemen should have organized themselves into an incorporated company, for the purpose of working those valuable deposits, and of opening a market for them in Baltimore. The President of the company is Charles J. Baker, Esq., and all the arrangements looking to an extended trade have been so far perfected that the company is now able to deliver cargoes at this port. This company, styled "The Ashly Mining and Phosphate Company," has become the owner of three thousand five hundred acres of land on the Ashley river, all of which is underlaid with the deposits

of phosphates, to which we have alluded, and which, according to analyses made by Professors Piggott, and Liebig, and Mr. Popplein respectively, contain from 57 to 68 per cent. of bone phosphate of lime. A remarkable feature of these Charleston deposits is that there is found in them a much larger percentage of soluble phosphate than in any of the phosphatic guanos which have been imported into the United States,

The object of the Ashley Mining and Phosphate Company is to furnish to manufacturers of super-phosphates and others, a superior article of phosphate at a rate quite as low as the imported phosphates can be purchased at, and of greater solubility. We understand that large orders have already been received both for the plain ground phosphate and for the crude article.

As a further means of giving practical utility to this valuable discovery, another company has been organized and incorporated by the Legislature of this State, styled "The Maryland Fertilizing and Manufacturing Company." This company is also now in operation, and proposes not only to furnish the pure article ground ready for use, but also to manufacture an ammoniated super-phosphate, taking the Charleston phosphate as a base. This latter company, of which Mr. Lawrence Sangston is President, has recently opened an office at No. 58 Exchange Place.

A History of Maryland.—We are favoured by Professor Onderdonk, the author, with an opportunity of looking through this little history in advance of its issue from the press. It is designed for the use of schools, and modestly purports, we believe, to be an abridgement of McSherry, but is mainly re-written. It seems, from a cursory reading, to be admirably suited to the end in view, and such a book as every little Marylander should become thoroughly familiar with. We hope it will find a place in every school.

Floral Curiosity.—Mr. Loughridge, Charles street avenue, hands us a *Dahlia*, nearly half of which is perfect maroon colour, while the remainder is strictly what is known as lake colour.

We are indebted to Dr. Barnard, Commissioner, for a copy of his Official Circular, No. 13, from the National Department of Education.

Book Table.

BeBow's Review for August.—W. M. Burwell editor and proprietor, and R. G. Barnwell, associate editor and agent. N. Orleans and N. York. This is an excellent number of this well known and able Southern publication. Its table of contents exhibits great variety, and the best Southern writers are contributors.

From the Leonard Scott Publishing House, 140 Fulton street, we have *The London Quarterly Review*: 1. The Life of David Garrick. 2. Indian Railways. 3. Coleridge as a Poet. 4. Gunpowder. 5. Marco Polo and his Recent Editors. 6. History of Lace. 7. Sir Roderick Murchison and Modern Schools of Geology. 8. Proverbs, Ancient and Modern. 9. Ireland Once More.

The American Entomologist.—R. P. Studley & Co., publishers, St. Louis, Mo., will issue on the 1st of September the first number of a monthly journal, under this title, to be edited by B. D. Walsh, A. M., of Illinois, and Chas. V. Riley, of Missouri, Official Entomologists of their respective States. \$1 per annum.

The subject of Entomology is of very great importance to the agricultural community, and proportionally neglected. The names of the editors of the new journal give assurance that the new magazine will be ably managed, and we wish it the best success.

Catalogue of the University of Virginia, forty-fourth session—1867-68; also,

Chemistry Applied to the Arts.—A lecture delivered before the University of Virginia May 30, 1868, by J. W. Mallet, Ph. D.; M. D.; F. C. S., Professor of Analytical and Applied Chemistry in the University.

We are indebted for these to our friend, Dr. John R. Woods of Albemarle, a Trustee of the University.

Vick's Illustrated Catalogue of Bulbs for the Autumn of 1868.—Those who want Hyacinths, Tulips and all the sort of them, should send to the head-quarters of Mr. Vick, the king of the hardy bulbs. Send for his catalogue and see what he offers. One of the good things we propose for ourselves, is to go, some of these days, to Rochester, when the tulips are in bloom—whole acres of them.

The Cornhill Monthly.—The Cornhill Monthly is a new magazine of 32 pages, published by Messrs. Dr. Lothrop & N. P. Kemp, at Nos. 38 and 40 Cornhill, Boston, at the low price of \$1 a year. The initial number, which has just appeared, has beauty for the eye and an appetizing table of contents.

Our Dumb Animals.—This is the title of a monthly publication of the *Massachusetts Society for the Prevention of Cruelty to Animals*. As may be inferred, it is devoted to the interests which the Society represents. "We speak for those who cannot speak for themselves" is its motto. We are indebted to its pages for several good selected articles.

"The War between the States, its Causes, Character, Conduct and Results," by Hon. Alexander H. Stephens, is the title of a valuable work just issued by The National Publishing Co., Philadelphia, Pa. Histories of the late civil war have sprung up like mushrooms, and they can now be numbered almost by hundreds, but all who are desirous of arriving at a correct understanding of the causes, and a clear history of the events of the late lamentable war, have felt the want of a reliable history of the same from a Southern stand-point, by some representative man of the South. This want is about to be supplied by Alexander H. Stephens. To a public that has been surfeited with *apparently similar productions*, it presents a change of fare, both agreeable and salutary, and an intellectual treat of the highest order. The great American war has at last found a historian worthy of its importance, and at whose hands it receives that moderate, candid and impartial treatment which truth and justice so urgently demand. This most valuable work is sold only by subscription, and the publishers want an agent in every county.

A Model Letter.—Many farmers have so little occasion to write, that it is a bother to them to execute even the few lines necessary in sending a subscription. We offer such, the copy of one just received, which, in its combination of brevity and civility, is a model:

GENTLEMEN: Within find \$2 for year's subscription. Your "Farmer" is invaluable to me.

Respectfully yours,

.....
..... P. Office.

Varieties of Wheat.

LAUREL, DEL., July 28, 1868.

Editors of American Farmer:

Some years back we raised fine crops of blue stem wheat in this section, much better than any other variety, but for the last four or five years it has very much fallen off, both in quality and quantity. Please advise me what sort of wheat to sow next fall; and also, the best place to get good seed. We have sowed the same blue stem wheat for the last seven or eight years. Do you think it will be likely to do better if we get seed wheat from some distant point? The yield of Boughton with us, is only about half of what we raised of blue stem ten or twelve years back.

REMARKS BY EDITOR.—Our correspondent's experience with blue stem wheat, is that of Maryland farmers generally. This valuable wheat has been very generally abandoned in the best lands of the State, and there is no good white variety to take its place. The Boughton or Tappahannock was for some years adopted by many, owing chiefly to its early ripening, but has been generally abandoned too.

Red wheats are mostly sown now—the Lancaster red and others, nearly allied to the old Medeterranean. Yet these wheats yield no such crops as we used to get from the white varieties.

Agricultural Clubs.—We find in a late number of the *Maryland Republican*, Annapolis, a call upon the farmers of the county to form district clubs, and to send delegates to a convention of farmers to meet at Annapolis for the purpose of discussing such matters as pertain to agricultural interests.

We heartily wish this movement may be the beginning of a general one in the counties, which may ere long result in associations throughout the State auxiliary to the State Agricultural and Mechanical Association.

Regulations and List of Premiums of Wisconsin State Agricultural Society—Fifteenth Annual Exhibition, to be held at Madison, beginning Monday, 28th September. \$10,000 in premiums.

The agricultural societies of Mass. received \$15,000 from the State last year.

Cattle Disease.

Great excitement has existed for some weeks past in the principal cattle markets, and along the thoroughfares leading to them, on account of a dreadful scourge which has raged among cattle. "This excitement can hardly be wondered at," says the *Prairie Farmer*, "when it is estimated that \$300,000 will not pay the losses in Champaign county alone," in Illinois, within a comparatively brief period.

The disease, after all the investigation given it, is attributed altogether to the introduction of Texas cattle, which, strange to say, exhibit no indications of the disease themselves. Another important fact, which leads to the hope, that the scourge will be limited in its effects is, that it is not communicable from cattle that take it from the Texans. Those and those only that travel in the same track, and feed on the same pastures, or are put into the same enclosures with the Texas cattle, take the disease, and its course, it may be hoped, will be a short one.

Another important fact is mentioned with confidence, viz: that the poison of the disease does not effect either the meat or the milk of the cattle suffering under it—a comfort to such as may be ignorantly obliged to consume the beef, which since the appearance of the disease in Illinois, has been run off to market in great quantities.

Professor Gamgee, Principal of the Albert Veterinary College, London, being in the West when the disease broke out, has given it special attention, and makes a report to the Pork Packers Association, Chicago, from which we quote the following:

"The farmers of our country would call this disease 'black water.' It is very similar to the 'darn' of Aberdeenshire, and it has been described as occurring in various parts of Europe. There are, however, some very important features in the outbreak, we are at present studying, and it is essential I should state distinctly that which I consider to be matter of fact, and distinguish this from what at present may be pure theory, though opinion of a tolerably decided character can already be formed.

In the first place, the malady follows the track of Texan cattle, and is not found beyond. The Texas cattle are themselves healthy, and we have failed yet to see a diseased one. Native cattle do not communicate the disease to other native cattle, and sucking calves con-

tinue to suckle their sick mothers without contracting the disease. In one case a calf suckled its dam until the latter died; it was then placed with a cow that also died, and lastly, with a third one that succumbed too, without indicating the slightest symptoms of ill health.

Secondly, I consider that there is no specific animal poison causing the spread of the disease. It is not a malady belonging to the class of true plagues, or epizootics; it has a local origin, from cattle grazing on certain lands in Texas, and if you took cattle South, and grazed them where the Texan steers enjoy perfect health, from being acclimatized and accustomed to peculiar pastures, you would find the cattle of the North dying in the South, as they are doing at present in the State of Illinois.

It is not an uncommon circumstance for animals, which are themselves healthy, being the carriers of disease-producing elements, though there is something unusually virulent discharged by the Texan herds, and discharged only during the summer months.

This malady has been classed in Europe by some authors, among the forms of anthrax, or carbuncular fevers, which originate spontaneously where there is sufficient heat on ill-drained, retentive soils, and widely over the marsh lands of Central, Southern, and Eastern Europe.

But, gentlemen, it is a consolation to know that there is not the slightest danger of any evil arising from the drinking of the milk of the sick cows, and I should have no scruples in eating the flesh. They are not poisoned by any specific virus calculated to do injury to men or animals, and in laying before you a theory of the origin of this disease, I am strengthened by facts which I have gleaned during investigations of similar disorders in Europe.

About spring time and early summer, in all probability, the Texan cattle eat, as our own do in some parts of Scotland, the young, succulent shoots of peculiar trees, highly charged with astringent principles. On unbroken ground, highly charged with moisture, and adjoining wood lands, there are, as the hot weather sets in, many things sprouting, which animals will not touch later in the season; and in the motts of Texas there is the live oak which grows in the Gulf States, where indeed cattle are reared which have been

known in times past to disseminate this disorder, for the cattle of Florida are as dangerous north of a certain line, as the steers of Texas. From this peculiar feed, therefore, the animals get their systems impregnated with materials which do not destroy the stock accustomed to a special living in a given latitude, but which being thrown off in the urine and the excrement, induce the "black water," or peculiar form of "enzootic hæmaturia," which is now killing the cattle of this and adjoining States."

Wheat—Timothy.

Editors of American Farmer:

GENTLEMEN: An almost total failure in a wheat crop for three successive years painfully admonishes me of the necessity of seeking for some other mode of employing my farming resources than the one which, as above noted, has resulted so unfortunately. After deducting the value of the seed wheat, the cost of preparing the land, and that of harvesting and threshing, it seems to me that one really can have nothing left, in making 7 or 8 bushels per acre, with which to meet the necessary expenses on a farm, outside of those actually expended on the wheat itself. How many farmers in lower Maryland make over the amount above indicated, taking the whole average? Many make less. I certainly can't afford such unremunerative practice, and must try some other crop, and to that end I write you, asking a reply certainly by the September number.

I have a field of 45 acres now in corn, which has been thoroughly manured—in part with stable manure and in part with phosphate, at the rate of 300 pounds to the acre. This field I intended to put in wheat, but my failures render the matter, to my mind, one of very doubtful propriety. I do not wish to lose the benefit of the manure not appropriated by the corn crop. Can I, with any prospect of success, put this land in timothy? The corn has been thoroughly cultivated; there is no grass in the field except a little crab grass, very near the corn, that the cultivator could not reach, and the land is very light. The mode of seeding I purposed is this: to run the cultivator twice in the row early in September, just before I cut off the corn, and seed on the land thus freshened at the rate of one peck per acre. Would I be likely to get a stand in

this way? And, now, as to expense. The crop will cost as follows: For seed, \$30; labor in seeding, \$10; 200 pounds phosphate per acre, \$270; mowing and stacking in the field, \$30; packing away in barn and baling, \$60; total cost of crop, \$400. I do not include cost of hauling to depot, as that would not amount to much, and as the above estimates seem to me large enough to include that much additional. The first year a press would have to be purchased, say at \$150. Am I correct in the above? Now, as to receipts—premising that the land is good—capable of making 7 or 8 barrels of corn per acre. Such land, thus treated, would yield me, I think, a little over a ton per acre the first year, say the field would make 60 tons; would this not sell at \$16 per ton, clear of all expenses of freight and commission, when one is within 100 miles of market on navigable water? This would amount to \$960. Deducting expenses, including cost of press, this would leave a net product amounting to \$410. Can I do as much with wheat? Am I not likely to do far less? Am I correct in my estimates? Would you advise the attempt? The experiment would only cost the value of the seed, even if it should fail, for before I would apply the phosphate in the spring I could readily tell whether there would be a good growth or not; and even should I not get a stand for a mowing crop, I certainly would have a pasture more than worth the cost of seed. There are many things I would like to add, so as to gain information upon this subject, but I have not time, and must indeed apologize for the haste in which this has been penned.

St. Mary's Co., Md.

INQUIRER.

REMARKS.—*Inquirer* presents a topic which interests a large number of our readers. As he seems ready to make the experiment he suggests we would say to him, try it. By all means, however, let him sow clover seed with the timothy—a half peck to the acre—and at the same time; and repeat the sowing in spring, should it be necessary, which is not probable. We do not believe it can be profitable, to be at the heavy expense of seeding wheat on land from which, year after year, we harvest seven, eight or ten bushels only, to the acre, and have for many years discouraged the sowing of corn ground with wheat, except it be of the best description of wheat land, and well manured. A good clover fal-

low or other like preparation, that with a favourable season and no disaster may bring 80 bushels to the acre, is almost certain of a paying return under all circumstances; while that which, at the best, we can expect no more than 15 bushels from, generally falls greatly short of that, and often fails disastrously. We think wheat a very sure crop on very good land, and very uncertain on that of ordinary quality.

As to the substitute our correspondent proposes, it seems the best he can adopt, and we should expect to profit by the change. As he says, the cost of a trial will not be great, and he will soon be able to determine the value of a hay crop, under the circumstances. At the worst, he can increase his stock, and give his land the benefit of a longer time in sod.

The clover sowing we propose, is the common practice of those who seed in timothy, first to give a crop of grass for first year or two after seeding, when the timothy is usually light, and then for the great advantage to the land.

Winter Oats.

WARWICK CO., VA., July 20th, 1868.

Editors of American Farmer:

GENTLEMEN: Owing to the great failure in the wheat crops of this section for the last four years, the farmers are turning their attention to oats. In the next number of the Farmer please give us the mode of cultivating *winter oats* at the North, or in Maryland; and if seed from North or South be best; also, if the spring oat would not answer sown in fall, and oblige

A SUBSCRIBER.

REMARKS.—A communication on this subject will be found on another page. We know of no oats that will stand the winter of Maryland, ordinarily. We have occasionally seen such a thing, and Maryland oats might be sown with safety in fall, we do not doubt, in the latitude of our correspondent. Fall sowing would probably give much better crops.

Fish spawn is now sent safely by mail. A package of 200 trout spawn mailed from Mumford, Monroe county, New York, on the 6th of March, reached Fort Sanders, Dakota, on the 13th, with only six spoiled. By April 2d, nearly all the eggs were hatched out and the fish doing well.

Wheat Growing. Does it Pay?

CHAPEL HILL, N. C., Aug. 5, 1868.

Editors of American Farmer:

GENTLEMEN: Does the cultivation of wheat pay? If so, will you or some of your readers tell me where I made my mistake. Last November I planted $2\frac{1}{2}$ acres and made $12\frac{1}{2}$ bushels. The land was a light sandy soil—very poor; it was broken up with a two-horse plough and subsoiled, but not very well, in the spring of 1867, and planted in corn; about 300 pounds of fertilizer (made by Duval's or Valentine's receipt) was put on each acre.—The result was a much better crop of corn than usual. About the 15th of November it was broken up with a one-horse plough and sowed in Key's Amber Prolific Wheat, bought of D. Landreth & Son, Philadelphia. It was covered with a cultivator. The yield was $12\frac{1}{2}$ bushels from the whole field, or 5 bushels to the acre. At the time the wheat was sown there was put on the ground 700 pounds to each acre of the same fertilizer as used for the corn. The wheat looked unusually well, but was very thin. The grain is extra plump and nice. The field looked so much better than the generality of wheat, that it attracted the attention of every one that passed it. I kept an accurate account of the expense, which, you see, makes the wheat cost pretty high, more than double what wheat is selling for now. I would like very much to know where my error was. I am no farmer. Can it be possible that farmers don't know what their produce costs them? The cost of seed cultivation, &c., was—

Dr.

3 bushels wheat.....	\$15 00
Freight on same.....	3 88
1750 pounds fertilizer.....	21 62
Ploughing and sowing.....	7 75
Cutting and binding.....	2 85

\$52 00

Cr.

By $12\frac{1}{2}$ bushels wheat at \$4 16.....	\$52 00
---	---------

I ought to say that the land has been very much improved. It has a good crop of weeds on it, something it never had before since I have known it. Is the fault in the cultivation or the variety of wheat? Is Key's Amber Prolific a good variety? What is the usual yield to an acre?

Very respectfully,

F.

REMARKS.—We reply to the writer that "a light sandy soil, very poor," to start with, is a most unpromising feature in his experiment,

and that he should not be discouraged at his failure. We have known such soil to become productive of wheat after a course of treatment with clover or field peas and lime, but should expect little from it at first, with any amount of manuring. Moreover, everywhere almost, the turnout of grain this season, has not answered to the appearance of straw.

We do not know the variety of wheat he mentions, by that name, but remark that, the bearded red wheats are doing better of late years, than others, on the best wheat lands, and are always more suitable to soil such as his.

In reply to the question, "can it be possible that farmers don't know what their produce cost them?" we say, yes, they very rarely know.

See article on wheat in June number.

Disease of Horses.

PHILADELPHIA, Aug. 1, 1868.

Editors of American Farmer:

GENTLEMEN: I have just been reading Dr. Dadd's Essay on Colic and Bots and fully agree with what he says about the latter. I have been long convinced that the bot never turned upon the stomach until the horse was struck with death.

I have had several horses taken with a brain disease; first dullness, then wildness and staggering, profuse sweating, trembling, twitching of the skin and ears. The horse bears his head against the wall and sways back and forth, will suddenly fall and as suddenly rise again. It attacks the horses when they are in high condition and there seems to be no difficulty except in the head. The veterinarians call it apoplexy and bleed from the neck vein, first a couple of quarts, then in fifteen to twenty-five minutes as much more, repeating this three, four, or five times, and give an opiate, a stimulant in the shape of pepper, ginger, and a physic. Is that the proper name of the disease and are these the best means of checking it?

Very truly yours, C. W. D.

A correspondent of the New England Homestead has for the last twenty-five years planted potatoes, not larger, on an average, than an ordinary hen's egg, and they yet produce as sound and as large a product as at first.

Too Much Straw for the Grain.

BENT CREEK, Appomattox Co., Va.,
August 4, 1868.

Editors of American Farmer:

GENTLEMEN: I wish to say that the July number of the "Farmer" has not arrived; as the others came promptly at the beginning of the month, presume it has miscarried or was overlooked. Please forward that number.

I also want you to give an article in your paper on the cultivation of wheat of a character we will explain. The land sown being *blue* land, as commonly called—otherwise known as *green* stone land—some little not so, but gravelly land. The fall of 1866 we used a composition of two-thirds Peruvian and one-third Sombrero guano, 125 pounds per acre. The fall of '67 we used 100 pounds Peruvian guano and 100 pounds plaster per acre; on the richer land about 70 pounds of each; on the poorer more—the average about as above. The wheat used, the blue stem (white.) Both years the yield of *straw* was great and of *grain* small in proportion to the former. The land generally in pretty good condition. The fall of 1866 the land was all fallowed; that of '67 part fallowed and part corn land; the latter *not* re-fallowed, and wheat put in with shovel plough both in corn and fallowed land. We began to sow in '67 about the 15th of October, the fallowed land; the corn land was sown in November, being finished 12th of November; the wheat, as to quantity, about the same on the two. I want to know what fertilizer should be used to rectify the disproportion, so as to get more *grain* and less *straw*. I would be glad to know this before seeding time—not far off—September number would answer. This information would be generally acceptable.

It is a general complaint that the amount of straw is too great for the *wheat* made throughout this section.

Your friend, ALFRED A. WHITE.

REMARKS.—Our correspondent will see what we have said in another place of the *blue stem* wheat. The over proportion of straw to grain of which he complains, is not, we think, the effect of the manure used, but of the seasons. In '66, '67 and '68, the complaint is almost universal. Last year and this, the straw was forced into very luxuriant growth by the rainy season, and wanted strength and substance to

produce a heavy crop of grain, and the grain was forced to maturity by the excessive heat.

A larger proportion of the phosphatic guano than our correspondent used may be advised, and plaster should not be used except in spring for the good of the clover.

If there is any specific likely to make stronger and better straw, and grain in juster proportion to it, it is, we think, common salt, at the rate of two, three or four bushels to the acre.

When the quantity of fertilizing matter is so small as that used by our correspondent, it is especially desirable to have it drilled in with the seed. We cannot overestimate the advantage of a vigorous start before winter.

Commercial Value of Artificial Manures.

Dr. Augustus Voelcker, of the "Royal Agricultural College, England," in a very interesting report to the "Royal Agricultural Society," 1862, says: "Not more than fifteen or twenty years ago the manufacture and sale of artificial manures partook more of the character of a *venturous speculation* than that of a *legitimate, well regulated business*. Few men of substance and character were then willing to embark their skill and capital in a new and untried undertaking. On the other hand, many persons thrown out of employment, having little or nothing to lose and everything to gain, eagerly seize the opportunity of making a living by preparing and selling compounds, many of which scarcely deserved the name of artificial manures. At that time, inferior, altogether trashy mixtures were the rule, and well prepared intrinsically valuable fertilizers quite the exception. Prof. Way, Dr. Anderson and himself directed public attention to the extensive frauds and mode of satisfying—by smells—the unsuspecting farmers of England. By degrees agriculturists learned the service the analytical chemists rendered them, and have had much influence in rendering the manure trade what it now is, as a rule, namely, a *well regulated business, carried on by men of substance and character, possessed of skill and commercial knowledge and enterprise*, so that well prepared concentrated manures may now be bought in almost every market-town at much lower rates than the cost of similar fertilizers, if prepared by the farmer himself. Although the trade in manure is getting more and more into the hands of a *limited number of intelli-*

gent and large manufacturers, there are still to be found here and there small and ignorant makers and farmers who make a few hundred tons of artificial manure for their own use and that of their neighbors. Generally speaking, a manufacture carried out on such a limited scale, brings no advantage to the consumer, and seldom benefits for any length of time the producer, who has *neither skill, capital nor enterprise to compete with a firm which does a large trade*. A man who has not sufficient chemical knowledge, will often select raw materials, which are very good in appearance, but in reality cannot be employed so profitably as others, or he may not have sufficient capital to buy in materials, which can only be obtained by taking a ship's cargo at a time, or if he has capital, he may not have sufficient commercial knowledge and decision to take advantage of a favorable turn in the market. For these and similar reasons, such a dealer will lose money if he sells the manufactured product at a rate which will yield a good profit to another vender more favorably circumstanced. The commercial price of the raw materials employed in the manufacturing of manures, like everything else, is dependent upon demand and supply, and regulates itself accordingly. *The consumer, in my opinion, has a far better guarantee for a supply of cheap fertilizers in the competition of respectable firms, than in the publication of any fallable, because constantly changing, price list.*"

FEEDING HORSES.—The Arabs, the most careful of their horses of all people, do most of their horse-feeding at night. They say that feeding in the day time does not impart so much vigor and elasticity to the animal as night mastication does. Their saying is that "barley at night goes to the buttock—in the morning to the manure." They afford water too, very sparingly during the day time.

POTATO BUGS.—Several cases of poisoning from potato bugs are reported in the local papers. One woman in Minnesota lost her life by eating her dinner in the field where she had no opportunity to wash her hands before eating. Another received the venom through the pores of the skin. Both had been engaged in killing the bugs. Death from the poison of these insects is preceded by a horrible swelling of the part affected.

From the Germantown Telegraph.

Construction of Ice-Houses.

MR. EDITOR.—In your issue of the 8th of July is an article from the pen of "Observer," "Hints for the Farmer," and they are all valuable hints.

He says "that no farmer should be without an *ice-house*," "that it should be located near the dwelling," "that refrigerated articles may be safe in it."

Years since, I became fully impressed with the importance of this, in regard to ice-houses, and until of late I am building them close by the side of the cellar of the house and opening to the basement kitchen if there is one, if not opening to the cellar.

I make the roof flat, frequently the same grade as the surface of the ground in the yard adjacent to the house, always providing good drainage, but carefully avoiding *ventilation*.

If the grade of the ground is sufficient for the pitch of the roof, I lay up the walls of the ice-pit just to the surface, then lay on my rafters and roof; but if necessary, I carry up the ridge of the single pitch-roof to a proper height, letting it join against the foundation wall of the house, or the siding, as the case may be. I build a closet of suitable size by the side of the ice-pit and between it and the house, which extends down as low as the bottom of the ice-house, and if a foot or two lower all the better.

In this closet I suspend a dumb waiter, which is nearly balanced by a weight suspended on a rope, the opposite end of which is attached to the top of the refrigerating box. I also attach another rope to the box or dumb-waiter at the top. This rope passes up over a shive nearly over the centre of the box, then extends latterly to another pulley placed over head in the house cellar. Just under this I place a suitable windlass with crank. The rope last described is attached to the windlass, so that by means of the crank a quarter of beef, if necessary, may be raised in the refrigerating box to the level of the kitchen or cellar floor, when doors or a door is provided which opens to the box. By the way of this opening I also provide for getting into the ice-pit. I put a trap-door in the roof of a proper size to dump the ice from carts into the pit. I bolt this trap-door on the under side, so that the only access to the

ice and refrigerating box is through the kitchen or cellar.

Articles to be refrigerated are placed in the dumb-waiter and it is allowed to run down to the bottom of the closet, where a quarter of lamb may lie three months and not spoil. By this arrangement no ice need be taken out of the house for refrigerating purposes, and the lowest temperature obtained with the ice is constantly secured.

This is the best arrangement for an ice-house that I have discovered. I have built a number after this plan, and I will place one on the south side of the house, with full exposure to the sun, and guarantee it to keep ice for two years without refilling—and there is no patent on it that I am aware of.

Where rain-water is used for the house I have an arrangement by which a bucket of water can be drawn at any time, as cold as ice will make it, without taking any ice from the pit for this purpose.

Very respectfully yours,

J. WILKINSON.

PRESERVATION OF WINE.—The important discovery of Pasteur of France, that wine heated to the temperature of 60 deg. C. will neither turn, become diseased, nor deposit sediment, has been applied in practice at the Longworth wine house in Cincinnati with decided success, Major Anderson, the present proprietor of that establishment, constructing a heating chamber capable of holding 2000 bottles of wine. Some of the wine heated was afterwards exposed to the sun for four weeks, and only became more clear; while wine of the same kind, not heated by similar exposure, showed traces of sediment. Dry wine in casks can be heated to the same point, and thus indefinitely preserved. The process is said to act as a restorative where wines have degenerated.

Hedges are made in South America from the Aloe. It is a most useful tree; nearly every part serves some purpose; a sweet sap flows from it when tapped; alkali is also produced from the leaves; the flowers make excellent pickles; the pith is used for sharpening knives; the roots are woven into sacks, and the sharp spines are used as needles.

The saints fall on their faces; the wicked fall backward.

The Borrowing Nuisance.

A correspondent of the Northwestern Farmer, whose righteous indignation has been aroused by those intolerable pests, unscrupulous borrowers, writes to that paper as follows:

My neighbor wanted to borrow my shovel—would return it in the evening. Evening came, but no shovel. The next evening it was quietly returned to its accustomed hook in the wood-house, the blade covered over one-half its surface with a coating of dry mortar. I pride myself on my clean and bright shovels and hoes. Half an hour's work with an old knife-blade, and the use of a sheet of sand-paper, restored it.

Another time he was building a pig pen. The posts were long, and they were very hard, and his saw very dull. Of course he borrowed mine, and he sawed off a nail with it—the posts had been used before. He sent his little boy to return the saw with the message—"Pa would 'a' sent it and got it filed, but he knowed you allus filed your own saw, and it wouldn't take but a few minutes to sharp it again."

Another neighbor "borrowed" the privilege of getting water at my well. The well is deep, and we draw a windlass. It is hard for my wife to draw up a bucketful, for she is feeble, and to save her, I usually fill the bucket before going away to my business. As the well is in an out kitchen, I leave the filled bucket hanging in the curb. My neighbor sneaks in, empties the bucket, and is mean enough to go away without refilling it. Wife and I conclude it is better to suffer a wrong than have a difficulty with a near neighbor, and so for the sake of peace, we submit to this wear and tear of soul and body. When the same person borrows flour, for the best article a poor one is returned. Eggs, matches, "a drawin' o' tea," are never returned.

I might increase to great length a record of these examples, but my object is only to illustrate the position taken, that the habitual borrower's code is a lax one. This may be partially accounted for by the fact that the independent, self-reliant portion of the community seldom borrow, and the practice is mostly left to people of the opposite kind. The unscrupulous borrower usually belongs to one of two classes; The easy, shiftless sluggard, or the greedy, grasping victim of avarice. The first borrows with a dim ex-

pectation of paying sometime, and the hope that he may be able to do so; the other borrows with a full design never to make an honest return if he can avoid it—it shall be clear gain, if he can make it so. Both are knaves, and unreliable in all matters of trust.

Among honest men, borrowing may be made a convenience, and mutually beneficial. Yet I think the question is worth considering, whether it does not demoralize a man—weaken his self-reliance. We get to relying on our neighbors more and more, for the things ourselves ought to procure. On the whole my advice is to borrow only in case of great need, when you cannot get along without doing so.

Refuse Lime from Gas Works as a Manure.

Having had many inquiries as to the value of gas lime, we copy the following experience of a correspondent of the *Scottish Farmer—Country Gentleman*.

Having heard repeatedly of the great benefits derived from the use of the refuse lime of gas works, and the cost of material being so trifling compared with that of other manures, I was tempted to make a trial. I accordingly got some, and made use of it; but alas! too freely. The whole crops manured with it were completely destroyed. A quantity was used for potatoes, and, of course, the failure was sure enough among those that were so treated, while the others, planted alongside of them, and which received only common farm-yard manure, came forth vigorously. All the other crops I tried with gas lime proved to be tainted by the same fatal results. In consequence I protested loudly against such rubbish being applied for the growth of crops. I resolved never again to use such poison. But next year, where the destroyer had been, I beheld with pleasing astonishment the exuberant and healthful appearance of vegetation there, compared with that which was manured with common dung, and did well last year. I am not overstraining when I say that the produce on the gas lime manured spot was nearly double that on the other. I now began to see I had acted on my crops like the patient who got medicine from the apothecary to have served him a week, but who, through ignorance, in order to get the sooner better, as he thought, took the whole at one dose, and died by his imprudence. In like

manner, I found I had given too great a dose to my land, and from the wonderful effect I saw produced, was more favorable to it than ever.

I resolved to make another trial, which I did, but with more caution; and instead of waiting and putting it on in spring, as I formerly did, I applied it during winter, spreading it thinly over the surface, and after it remained for some time, ploughed it in; and, by working the soil, when the sowing season came it was finely pulverized and completely mixed. The result of this experiment was the reverse of my former trial, and by using it sparingly, its effects proved very advantageous. In all cases, farm-yard manure was used along with it. In the first trial, however, there was less than in my latter successful experiment. Every powerful manure, when used to excess, will prove hurtful. Over-feeding is contrary to the laws of nature, and is ever productive of fatal effects. The sturdiest tree that has stood the storm and braved the buffeting blasts of centuries, when surrounded by a dunghill close to its roots, will gradually become sickly and die. Great caution is necessary in using gas lime. It should always be sparingly applied. It is one of the best preventives I know of against "finger-and-toe" among turnips, and a slight dusting of it will completely divest the bearded crop of the "fly."

Importation of Brittany Cattle.

It will interest dairymen and stock growers to learn that an importation of this celebrated breed of cattle is now on the way from Brest, and may be expected to arrive early the present week. These cattle were selected for their owners, Charles L. Flint, Secretary of the State Board of Agriculture, and Gen. Charles J. Paine of Boston, by Edward P. Andrews of Paris, and H. N. Peters, Esquire, of Southborough; and were taken from the best herds of Brittany. This breed has long been celebrated in Europe for its purity, as well as its superior dairy qualities, the milk being very rich and the butter the finest made. They are very gentle, and so hardy that they thrive in pastures where larger animals would scarcely subsist. For this reason they will prove to be admirably adapted to many sections of New England, while at the same time they must be valuable as a cross with our native breeds. They are thus described:—

The true Breton cow is usually black and white. Occasionally a red and white one is to be met with, but the prevailing color is black and white. She is small in size, the height varying from thirty-two to forty-two inches, on an average of thirty-six or thirty-eight inches at the period of maturity. The limbs are fine and delicate; in fact, the animal is a perfect dairy cow in miniature, and hence it is very popular among many as a pet, being gentle and docile, and a curiosity on account of the small size. The form is remarkably symmetrical, the head short and fine, with a sharp outline, the muzzle small, the eye quick and lively, the horn slender, well set, curving outward and upward, with the points turned to each other. The color of the horn is white at the foot and black towards the tip, sometimes all black, or all of a yellowish color. The neck is slender, the crest free and the dewlap very small. The back is straight, the withers well formed, the loins broad and well formed, the hips prominent, with a large pelvic capacity. The rump is short, the tail long and well attached. The legs are short, the joints small and well defined, the hoofs small, dry and black. The skin is almost invariably fine and supple, the coat short and shiny. The roof of the mouth and the tongue are always white, though the muzzle is usually black, sometimes black and white and rarely quite white. The udder is well shaped and compact, though large for so small an animal, the teats pointing inward.—*Boston Spectator.*

It is proposed to herald the approach of storms during the season of harvest by means of the telegraph and cannon, the expense of the same to be paid by the government. It is estimated that nearly one-fourth of our hay and grain crop is annually destroyed by storms during harvest, much of which might be saved if we were in communication with the clerk of the weather.

Newly set trees may be protected from the heat of summer by covering their trunks with ropes made of freshly cut grass or clover. It is a good plan to moisten the wrapping occasionally if the weather is very dry.

Peas and beans being both rich in nitrogen are valuable in repairing the waste in the muscles of animals and are especially advantageous in the production of wool.

Food Supplies in Great Britain.

Mr. Caird, in his paper on "Our Food Supplies," says: We find that the largest portion of our imports of wheat during twelve years ending with 1866, were derived from the United States, which contributed 35 per cent. of the whole; Germany next, contributing 20 per cent.; Russia 17 per cent.; France 12 per cent.; Egypt 6 per cent., and other countries 10 per cent.

The extension of railways has served to extend the limits from which our supplies are drawn, more especially in America, and the same means when put in operation in Russia, will assist still further in swelling our importations of grain from that part of the world. Mr. Caird shows that the fact of our sources of supply being so widely scattered is a material point in our favor, inasmuch as when one source fails, wholly or partially, others make up the deficiency. At the same time, he owns that a continued cessation of the supplies from America might seriously affect us, but hopes that the mutual interests of that country and Great Britain will be sufficiently powerful to prevent any interruption of mutual confidence and good will. We can only join in the hope; at the same time it is by no means pleasant to reflect that a war with America will prove the means of *half starving* the people of Great Britain; and the mere fact that such a contingency is far from being improbable, should stimulate us to make the most of our own resources, so as to be as little dependent as possible on other countries. —*Scottish Farmer*, 1868.

AMERICAN WHEAT.

That the United States are fast regaining their old power as a great wheat producing quarter of the world, is seen in the steady extension of their wheat exports of late.—Thus, in the first four months of 1867, the Great Republic exported 1,639,922 bushels of wheat, while in the second four months of the year the total rose to 2,614,358 bushels, and in the last four months to 8,896,832 bushels, making a total export for the year of 12,651,212 bushels, valued at \$21,869,412.—*Mark Lane Express*, London, April 6, 1868.

WHEAT IMPORTS.

The United States have once more taken the foremost place as regards the foreign country from which we import wheat. In the two months ending February 29th, this

year, we received 1,427,646 cwt. of wheat from the United States, against 409,301 cwt. in the corresponding period of 1867, and 259,796 cwt. in the corresponding period of 1866. The imports of Russian wheat declined on the other hand to 1,329,785 cwt. in the first two months of this year, against 1,501.22 cwt. in the corresponding period of 1867, and 2,110,657 cwt. in the corresponding period of 1866.—*Mark Lane Express*, London, April 6, 1868.

Change of Pasture for Cattle.

This is a subject of controversy. Some contend that it is better for stock to have frequent change from stale to fresh feed during grazing season. Its utility will depend somewhat upon the varieties of grass which the pastures contain, and the convenience of proprietor. Some fields are more expensive in fences than larger ones, because there are more of them to build and keep in repair. That item, therefore, is an inconvenience. A sudden change of diet with cattle always, to some extent, damages their stomachs and bowels. Taken from shorter or dryer grass, and put on to flush herbage, is apt to sour them, and while under such operation, the fattening beast loses flesh, or at least does not gain it, and the cow loses in her usual flow of milk. This we have known from repeated trials. Not that animals should not be changed from poor feed to better, but whether in the small fields which are to keep them through the grazing season and with an abundance of feed, it is not better to let them range over all of them at will, and enjoy the whole of it as they choose.

We incline to the latter. Cattle are quite local in their attachments. They best like the places to which they are accustomed. They also like a variety in their food. Large fields usually offer a greater variety than small ones, and almost every day they seek that variety. For twenty-five years past we have had a pasture of more than one hundred acres in a single field, in which we have grazed horses, cattle and sheep. In that pasture are different elevations, most of it being dry, upland, covered with blue-grass, white clover and mixed grasses; some lower grounds, growing red-top and fowl-meadow; some lowland copes of wood, and undergrowth of bushes, and rank wild grasses interspersed; and a range of marsh by a river shore, covered with a rank growth of sedge grass.—*Prairie Farmer*.

SUNDAY READING.

We must observe that *places* always accord with the *actions* done there. The Lord prays, is transfigured, discloses the deep things of His Majesty to His disciples on a *mountain*. Descending to the *plain*, He is met by the crowd, and assailed with the groans of the wretched. On high, He opens to His disciples the mysteries of His kingdom; below He reproves the people for the sin of unbelief. On high, He discovers to those fitted to hear it, the voice of His Father; below He casts out evil spirits from the possessed. The same, who ascends for sake of those who were qualified for such a favor, fails not now to come down for the relief of others. He comforts, teaches, corrects those who are still in the flesh, and novices only, as if stooping low to seek them (*quasi ima petens*.) But as for the more advanced, whose conversation is in heaven, them He glorifies by lifting Himself up higher, teaches them more familiarly heavenly things, and inculcates truths such as the multitudes are incapable even of hearing.

Early tears, like the mist descending, prognosticate a fair, serene day, as "April showers bring forth May flowers." They also prove Benjamin's "sons of the right-hand" are commonly first Benoni's "sons of sorrow." Christ Himself did wear a crown of thorns before He obtained a crown of glory. Joseph was first clapped up close in a dungeon, where he saw neither sun, nor moon, nor star for a season, before the sun, moon and stars did fall down and worship Him.

Love the cross of Christ; and be content to have your faith tried every day by some cross or other, as it pleaseth God to put on you; and if God putteth no grievous cross on you, let your brethren's cross be your cross, which is a certain token of true brotherly love.

Peter had his name from a rock, that is, from Christ, upon whom the Church is founded. For a rock did not obtain its name from Peter, but Peter from a rock, even as Christ is not named from a Christian, but a Christian from Christ.

The faith of the Apostles is that immovable and most firm faith on which the Church is built.

The beautiful system of sun, planets, and comets, could have its origin in no other way than by the purpose and command of an intelligent and powerful Being. He governs all things, not as the soul of the world, but as the Lord of the universe. He is not only "God," but "Lord" or Governor. We know Him only by His properties and attributes; by the wise and admirable structure of things around us; and by their final causes; we admire Him on account of his perfections; we venerate and worship Him on account of His government.

Religion employs itself alike in establishing these two maxims, that God has left in his Church certain characters of Himself, by which they who sincerely seek Him shall not fail of a sensible conviction; and yet that He has, at the same time, so far shaded and obscured these characters, as to render them imperceptible to those who do not seek Him with their whole heart.

Upon the Church there never yet fell tempestuous storm, the vapors whereof were not first noted to rise from coldness in affection, and from backwardness of service towards God.

We ought to fix in our memories the lesser details which belong to the works of God, and we should take occasion from former mercies to hope for future.

It is an established and universal law, that he who will gain anything must give up something. He that will improve his understanding, his manners, or his health, must contradict his will.

When second causes answer our expectations and desires, we are seldom wont to look beyond them. We never regard the fountain till the cisterns begin to fail.

God fails not to sow blessings in the furrows which the ploughers plough upon the back of the Church.

The spirit in man is most noble, which rather prefers bearing the ills of life, than by fleeing to avoid them.

Necessity makes a man pray for himself; charity makes him pray for another.

EXTRAORDINARY Application of Superphosphates

TO CROP OF 1868.

By a series of field experiments during several years, I have determined the relative value of a soluble superphosphate, made with Navassa guano, as above all other fertilizers that have as yet been produced and to which I could have access. An illustration of the last series of experiments with this superphosphate, made with Navassa guano, has been published in the American Farmer of February, 1868, page 249, and an agriculturist (apparently an educated gentleman of Virginia) has pronounced *this* worth the subscriptions to all of the Agricultural Journals in America. (See Farmer, page 281.) This opinion of an intelligent but unknown individual, and the republication of my essay elsewhere, together with the anxiety of interested parties to use these experiments for private emolument, as exhibited in the last number of The Farmer, has encouraged me to give the proprietors of the Navassa enterprise another evidence of another character, which should be esteemed by them as of sevenfold more value for several reasons—but, especially, because the object in view, when the experiment was instituted, was not at all the question it has solved, nor was it undertaken at their instance, nor even with their knowledge and consent—moreover, I may remark that the latter assertion will apply equally, I believe, to all the series.

Several manufacturers employ Navassa in making superphosphate, and I have used it as a standard of comparison in illustrating the value of other phosphatic guano, upon the same principle that Peruvian guano is used by common consent, being the richest source of ammonia, and consequently the only fair standard of comparison as an article of commerce.

The most valuable essay, in order to advance these interests, appeared in the New

York Observer for January 30th, page 40, showing clearly the true policy of manufactures in aiming at the most concentrated article, but since that time all my expectations in the production of a soluble superphosphate have been eclipsed apparently by the announcement of a superphosphate made from Navassa that yields twenty per cent., (instead of eight per cent., which has heretofore been the standard.) Now the question has arisen in my mind whether it is safe to recommend farmers to combine with their seed wheat so concentrated an article as twenty per cent. Thus far we have demonstrated that, in proportion to the *solubility* of Navassa, it exceeds all other manures, and especially all other phosphates—but although other practical farmers have doubled the usual proportion in drilling their wheat, with a corresponding increase in the crop, I was not satisfied that it would be safe to increase so much the solubility of Navassa. A number of Fertilizers having been sent to me for my experiments last Autumn, after I had seeded my wheat, I was compelled to use them as a top dressing in the Spring—but the excessive amount of rain deferred it until the 21st of May, when I was enabled to select a part of my field uniformly set in wheat, having escaped all the accidents that might impair the value of the result if the manure had been applied nine months before with the seed wheat. All of the fertilizers were applied at the rate of one and a half tons per acre, except the alkaline material marked D. S., which has been a hobby of mine, and, being cheap, three tons of it were applied to the same area, or rather in that proportion.

The following result shows that not much danger is to be apprehended from the liberal application of Navassa containing 8 per cent. soluble phosphate, although multiplied by more than ten times the usual amount, or an equivalent of eighty per cent. of soluble phosphate, viz., 200 lbs. of phosphates, yielding 8

THE AMERICAN FARMER.

per cent., would apply 16 pounds to each acre, whereas more than 15 times this amount of soluble phosphate, or about Two Hundred and Fifty pounds were applied to the growing wheat, not only with impunity, but the result, as exhibited by the following table, has proved encouraging—the more so because my object in using this extraordinary amount of soluble Navassa on this occasion was not at all with reference to this result—but accidentally—viz., a remnant of a ton I used in 1866 being on hand, it was employed as a standard of comparison for five other fertilizers. If, however, I can secure a ton of the Navassa superphosphate that contains 20 per cent., there are three points of great interest that I may determine.

1st. Whether the wheat plants on the same area and with the same proportion of seed are increased or diminished in relation to the presence of this concentrated fertilizer?

2d. Whether the proportion used varies the result in this particular?

3d. The relative practical value of this with the old standard of 8 per cent. in these and other respects?

All experience, both here and in Europe, seems to indicate the importance of solubility in phosphates—and thus far we have found

that not only the increase of the crop, but also the weight of the grain, the number of heads of wheat on the same area, and the weight of the heads, was apparently increased in proportion to the solubility of the phosphate that was used. In the present instance, the average number of heads of wheat on five feet of a drill row was about 100 on six of the plats, whereas 147 matured on that dressed with Soluble Navassa. Moreover, the weight of the heads averaged about 13 grains from the six hundred heads, but 19 from the Navassa, (viz., as 13.61 is to 19.00.)

And it must be remembered that all of these plats were equally treated with standard fertilizers at about the same price—some charged with Peruvian guano, others with salts of ammonia and other sources thereof—but in no case equal in soluble phosphates to the Navassa—No. 1 yielding half as much, although it was the old standard of eight per cent.

A No. 1 represents the best spot in the field that had been uniformly seeded, and was then fully occupied by wheat plants, but was not top dressed with any manure. All the other plats were nearly contiguous and apparently equal, at the time the fertilizers were applied, on the 21st of May, 1868.

A No. 1, not top dressed	I	12.09	805.	3746
Navassa guano, 8 per cent soluble	II	12.92	1216.	3070
Peruvian guano, comp'd Fertilizer	III	19.05	0915.	3496
Carrib'n guano, comp'd Fertilizer	IV	18.51	0807.	3166
Salts of Ammonia and Superphosphate of Lime	V	13.00	1061.	4486
Rawbone Phosphate	VI	13.13	0709.	2848
D. S. Alkaline Salts of Potash	VII	09.35	0725.	3926

The average weight of the heads of wheat _____

Weight of the grain on same area _____

Weight of all the crop on the same area _____

The heaviest wheat was found on No. V and No. VII, viz., the specific gravity or the weight of a bushel measure of the grain, but this I suspect was an accident dependant on some rust and scab contracted from my neighbor's field that was seeded without any fertilizer, but this fact confirms my impression that a much cheaper means can be used in the Spring to arrest this pest when it thus appears.

DAVID STEWART, M. D.

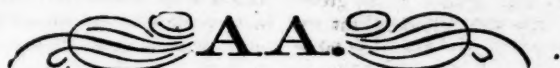
N. B. The yield of the land where top dressed with the superphosphate made with

Navassa guano containing eight per cent. corresponded with the result obtained in the use of the same material that I applied in 1836 in the Autumn, although in that case it was drilled with the seed wheat at the rate of about 200 lbs. per acre. See American Farmer as above, page 249—plat B, No. 2 and No. 3. In the present case, however, the results as annexed exhibit the grain in excess over the average of all the other manured plats, including A No. 1, in proportion as 1216. is to 837.

D. S.

Port Penn, Delaware, July 23, 1868.

ORCHILLA GUANO.



A TRUE BIRD GUANO, RICH IN PHOSPHATES AND ALKALINE SALTS.

From Orchilla Island, in the Caribbean Sea, belonging to Venezuela.

LAT. 11° 50' N., LON. 66° 14' W.

OFFICE OF THE STATE INSPECTOR OF GUANO,
BALTIMORE, August 1, 1868.

Result of analysis of a sample of *Orchilla Guano*, received per "*Schooner Dauntless*," imported by Messrs. B. M. RHODES & CO.

Moisture, (det. at 100° C).....	9.162
Org. combined matter.....	6.838
Phosphoric Acid.....	23.245

Which is equal to 50.746 Bone-Phosphate of Lime.

Rendered Kiln-dry, this cargo will contain 55.864 of *Bone-Phosphate of Lime*.

JNO. G. DILLEHUNT, *State Inspector*.

This Guano is not of a recent discovery and introduction into the market—it has for a series of years been received with great favor by the agricultural community, who have used it with universal satisfaction and great success in its crude state, as well as in a manipulated form.

In fact, such has been the favor it met with, and the demand for it, that the importation into the Philadelphia market amounted to upwards of six thousand tons per year.

In order to make its merits more universally known, and supply the still existing heavy demand for high-grade Mexican Guano, which now, as is generally conceded, may be considered extinct, the undersigned considers the rigid inspection laws of Maryland as efficient means to obtain that object.

It is intended to increase the exportation from *Orchilla* to tens of thousands of tons, and every cargo, wherever brought, is to be subjected to our State inspection, which in itself affords an ample guarantee and protection to the farmer.

In its physical as in its chemical character, it compares well with the known Mexican Guano, *whose place it is destined to take.*

It is fine, of inviting appearance, and has the same soft texture and mellowness. With its chemical constitution it ranks, as it is discharged from the vessel, near to A.A. Guano, and will, when kiln-dried, show over 55 per cent. of phosphate of lime, *such as is found in bones* and is commonly called *bone-phosphate of lime*. But there is a feature in all *true* Guanos generally overlooked, and to which in part the great success of their application is due, and which deserves to be mentioned here. We speak of the existence of a peculiar combination of phosphoric acid with lime, which in their relative proportions stands between the artificial bi-phosphate and the natural bone-phosphate. Containing less lime in proportion, it is consequently *more soluble*, easier assimilated in the soil, and hence of a higher availability to the plants.

The presence of carbonate of lime, though less desirable for manufacturing purposes, is nevertheless of acknowledged agricultural value, if presented in a condition like here. It serves as a conductor of carbonic acid, the slow but sure and powerful decomposer of the silicates in the soil. This, as well as the alkaline salts, of which the subjoined analysis shows a considerable amount,

THE AMERICAN FARMER.

are essential constituents of a fertile soil, the necessary transformation of which they assist and take an active part in:

PHILADELPHIA, March 30, 1863.

The sample of *Orechilla Guano* handed us March 25th gives, on analysis:

Moisture at 212° F., 12.61 per cent.	
The sample dried at 212° F., gives—	
Combined Water.....	10.45
Organic Matter, Trace.....	—
Insoluble Matter.....	.90
Oxide of Iron, Trace.....	—
Carbonate of Lime.....	27.29
Bone Phosphate of Lime.....	45.97
Phosphate of Magnesia.....	11.57
Chloride of Sodium.....	2.85
	99.03
	99.03

The total Phosphoric Acid is 27.33 per cent.
 Calculated Bone-Phosphate of Lime, 59.66 per cent.
 (Signed,)

MOSS & BRUCKNER.

Another important point to be borne in mind, is the great uniformity of this Guano, as is seen by the following analyses, made by different Chemists, and which is owing to the care and scrutiny exercised by responsible officers on the island, where every cargo, before it leaves, is analyzed and tested by a skillful chemist.

		BONE PHOSPHATE.	MOISTURE.		KILN-DRIED.
1865: July	26.....	50.93	6.46	=	54.45
Sept.	4.....	52.06	7.86	=	56.50
"	4.....	48.79	8.47	=	53.35
"	25.....	49.80	12.70	=	57.05
1866: Feb.	10.....	50.66	15.43	=	59.90
March	20.....	55.81	11.14	=	62.55
April	23.....	55.08	16.68	=	66.11
July	14.....	58.20	=	58.20
1867: April	12.....	48.55	5.55	=	51.34
"	18.....	55.84	=	55.84
May	7.....	53.33	=	53.33
Sept.	13.....	56.61	=	56.61

OFFICE OF THE STATE INSPECTOR OF GUANO,
BALTIMORE, August 22, 1868.

Result of analysis of a sample of *Orechilla Guano* taken by me from a lot stored at Philadelphia ex brig "J. B. Kirby," and schrs. "Marion Gage" and "Minnie Repplier," imported by B. M. RHODES & Co.

Moisture (det. at 100° C.).....	9.195
Org. combined matter	10.537
Phosphoric Acid.....	24.024

Which is equal to 52.446 Bone-Phosphate of Lime.

Rendered Kiln-dry, it will contain 57.756 of Bone-Phosphate of Lime.

JNO. G. DILLEHUNT, State Inspector.

Packed in Barrels and Bags. \$30 per ton 2,000 lbs.

B. M. RHODES & CO.

IMPORTERS FOR THE UNITED STATES,

82 SOUTH STREET,

BELOW CORN EXCHANGE,

OFFICE RHODES' STANDARD MANURES. [sept.] BALTIMORE.

THE AMERICAN FARMER.

Baltimore Markets, Aug. 23, 1868.

COFFEE.—Rio, 18a18½ cts. gold, according to quality; Laguayra 17a18 cts., and Java 23½ a24½ cts., gold.

COTTON.—We quote prices as follows, viz:

Grades.	Upland.	Gulf.
Ordinary.....	25 a—	00
Good do.....	27	00
Low Middling.....	28 a28½	00
Middling.....	29	a29½ 00

FERTILIZERS.—Peruvian Guano, \$84; California \$70; Rodunda Island \$30; Patapasco Co's \$60; Reese & Co's Soluble Pacific Guano, \$56; Flour of Bone, \$60; G. Ober's (Kettlewells) AA Manipulated, \$70; A do. \$60; Ammoniated Alkaline Phosphate, \$55; Alkaline Phos. \$45; Baltimore City Company's Fertilizer, \$40; do., Flour of Bone, \$60; do., Ground Bone, \$45; do., Poudrette, \$25; Baugh's Raw-bone Phosphate, \$56; Baugh's Chicago Bone Fertilizer, \$48; Baugh's Chicago Blood Manure, \$48; Maryland Powder of Bone, \$48; Rhodes' Super-Phosphate, \$50; Lister's Bone Super-Phosphate \$55; Berger & Butz's Super-Phosphate of Lime, \$56; Andrew Coe's Super-Phosphate of Lime, \$60; Zell's Raw Bone Phosphate, \$56; Zell's Super-Phosphate of Lime, \$60—all per ton of 2,000 lbs.; Pure Ground Plaster, \$14.50 per ton, or \$2.50 per bbl. Shell Lime slaked, 6c., unslaked, 10c per bushel, at kilns.

Flour.—Howard Street Super, \$9.00a9.50; High Grades, \$11.50a12.50; Family, \$12.50a13.50; City Mills Super, \$9.00a10.00; Baltimore Family, \$15.00.

Rye Flour and Corn Meal.—Rye Flour, \$10.00a10.25; Corn Meal, \$6.00a6.25.

GRAIN.—Wheat.—Good to prime Red, \$2.40a2.75; White, \$2.50a2.85.

Rye.—\$1.30a1.50 per bushel.

Oats.—Heavy to light—ranging as to character from 70a75c. per bushel.

Corn.—White, \$1.15a1.25; Yellow, \$1.16a1.22 per bushel.

HAY AND STRAW.—Timothy \$16a18, and Rye Straw \$—a\$— per ton.

PROVISIONS.—Bacon.—Shoulders, 14½a14¾ cents; Sides, 17½a17¾ cts.; Hams, Baltimore, 20a23 cts. per lb.

SALT.—Liverpool Ground Alum, \$2.10a2.20; Fine, \$2.80 a\$3.00 per sack; Turk's Island, 50a55 cts. per bushel.

SEEDS.—Timothy \$3.50; Clover \$8 00a9 00; Flax \$2.60.

TOBACCO.—We give the range of prices as follows:

Maryland.	
Frosted to common.....	\$3 75a 4.50
Sound common.....	5.00a 5.50
Middling.....	8.00a10.00
Good to fine brown.....	10 50a15.00
Fancy.....	17.00a25.00
Upper country.....	7.00a35.00
Ground leaves, new.....	4.00a13.00
Ohio.	
Inferior to good common.....	4.00a 6.00
Brown and greenish.....	7.00a 8.00
Medium to fine red and spangled.....	9.00a15.00
Fine spangled.....	15.00a20.09
Fine yellow and fancy.....	20.00a30.00

WOOL.—We quote: Unwashed, 28a30 cts.; Tub-washed, 42a44 cts.; Pulled 38a42 cts.; Fleeced 40a45 cts. per lb.

CATTLE MARKET.—Common, \$5.00a0 00; Good to fair, \$6 00a7.00; Prime Beeves, \$8 00a8.75 per 100 lbs.

Sheep.—Fair to good sheared, 4a5½ cts. per lb., gross.

Hogs.—\$12.75a14.50 per 100 lbs., net.

Wholesale Produce Market.

Prepared for the American Farmer by HENRY W. WARREN, Produce and Commission Merchant, 15 Commerce street.

BALTIMORE, Aug. 22, 1868.

BUTTER.—Western solid packed 29a35 cts.; Roll none; Glades, 35a38; Goshen none.

BEESWAX.—41a44 cts.

CHEESE.—Eastern, 18a18½; Western, 16½a17.

DRIED FRUIT.—Apples, — to —; Peaches, —a—.

EGGS.—17a20 cents per dozen.

FEATHERS.—Live Geese, 45 to 55 cents.

LARD.—Western, 18; City rendered, 17½ cts.

TALLOW.—11a12 cents.

POTATOES.—\$2.50a 50 per bbl.

NEW ADVERTISEMENTS—SEPT.

Guano and Fertilizers—R. W. L. Rasin, Gen'l Agent.

Isaac Reynolds' Sons.

Andrew Coe.

O. P. Merryman & Co.

G. Ober.

Nurseries, &c.—E. J. Evans & Co.

John Saul.

H. K. How.

Elwanger & Barry.

Lyman Bassett.

Wm S. Little.

Norris Barnard.

Thomas J. Pullen.

Smith, Clark & Powell.

Joseph Vick.

Charles Collins.

D. O. Munson.

Edwin Allen.

H. M. Engle.

H. F. Crowell.

Apple Parer—Sargent & Co., General Agents.

Figs, Fowls, &c.—Wade & Armstrong.

James C. Roberts.

J. D. Richardson & Co.

"American Entomologist"—R. P. Studley & Co.

"Aurene"—M. T. Wolf.

Lead Encased Block Tin Pipe—Colwell's, Shaw & Wil-

lard Manuf'g Co.

Schools—Northwood Female Institute.

School of the Good Shepherd

Contents of September Number.

Work for the Month.....	65
The Vegetable Garden.....	66
The Flower Garden.....	67
Grass for Horses.....	67
The Fruit Garden.....	68
Apples.....	68
Cultivation of Currants.....	68
Preserving Fruit.....	69
Ploughing Orchards.....	70
Deep or Shallow Ploughing.....	71
Winter Oats.....	71
When to Plough under Clover.....	72
Salt and Lime to Prevent Grain from Lodging.....	73
Hints from the London Horse Book.....	74
The Stomach.....	75
Effects of Weathering on Soil.....	76
Tanning.....	77
Points Indicative of a Good Cow.....	77
First Gen'l Assembly of the Agriculturists of France.....	78
Hog Pens.....	79
A Triumph of Scientific Tillage.....	80
Learning a Trade.....	80
Figures About Farming.....	81
A Large Importation of Percherons.....	81
Maryland Agricultural College—Admiral Franklin Buchanan elected President.....	82
The Agricultural College.....	82
Notice—The "American Farmer" for three months gratis.....	82
Agricultural Society's Grounds.....	83
Dr. Dadd.....	83
"Uses of Fruit." "Moral Ideas.".....	84
Phosphatic Deposits of South Carolina.....	84
A History of Maryland.....	85
Book Table.....	85
A Model Letter.....	86
Varieties of Wheat.....	86
Agricultural Clubs.....	86
Cattle Disease.....	87
Wheat—Timothy.....	87
Winter Oats.....	89
Wheat Growing. Does it Pay?.....	89
Disease of Horses.....	90
Too Much Stray for the Grain.....	90
Commercial Value of Artificial Manures.....	91
Feeding Horses.....	91
Potato Bugs.....	91
Construction of Ice-Houses.....	92
Preservation of Wine.....	92
The Borrowing Nuisance.....	93
Refuse Lime from Gas Works as a Manure.....	93
Importation of Britany Cattle.....	94
Food Supplies in Great Britain.....	95
Change of Pasture for Cattle.....	95
Sunday Reading.....	96

NAVASSA GUANO,

The only reliable source of Rich Bone Phosphate of Lime.

The Navassa Phosphate Company again beg to call the attention of the Agriculturist to their Guano. A comparison of the following analysis by chemical authorities will show it far superior to any Phosphatic material now offered, not only being more valuable to the Agriculturist, by supplying the greatest quantity of Phosphoric Acid, but having the additional advantage of being more readily converted into Superphosphate of Lime, (or made soluble,) and for this reason is used in the manufacture of almost all the reliable manures now offered for sale. It is an important matter for the Farmer to know from what materials the artificial manure he purchases is made, as from an article poor in Phosphoric Acid it is impossible to make a permanent or valuable manure, and particularly so at the present time, when so many very inferior articles, under new and high-sounding names, are offered for sale, manufactured from Phosphates of an inferior character, producing very little Phosphoric Acid, and that in such combinations as to be much less valuable. We not only offer in Navassa Guano the richest Phosphatic material imported, but guarantee all we sell shall contain a given amount of Bone Phosphate of Lime, the Guano upon arrival to be analyzed by any competent chemist the purchaser may select. Supplying the trade with this Guano in fine powder, packed in strong bags, containing twenty per cent. more Phosphate than any article now offered, at \$30 per ton of 2240 lbs., or crude, direct from Navassa Island, at proportionally low rates.

LABORATORY, 11 SALISBURY SQUARE, FLEET STREET.

Analysis of six samples, representing that number of cargoes, lately brought to England.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Moisture.....	13.61	2.73	5.51	7.70	8.77	13.07
Water in combination and Organic Matter.....	6.72	7.39	6.50	7.04	6.67
*Phosphoric Acid.....	30.88	32.48	31.85	31.98	31.23	31.64
Lime.....	32.66	34.06	37.73	36.10	37.22	37.08
Oxides of Iron, Alumina, Carbonic Acid, &c.....	13.88	20.16	16.09	15.60	13.80	16.01
Insoluble Silicious Matter.....	2.85	3.18	2.32	2.58	2.31	2.22
	100	100	100	100	100	100

*Equal to Tribasic Phosphate of Lime (bone earth). 67.41 70.90 69.50 69.81 68.18 69.07

The commercial value of Navassa Guano, it is scarcely necessary for me to say, is mainly regulated by the amount of Phosphoric Acid which it contains. In the foregoing analysis the percentage of Phosphoric Acid was accurately determined.

AUGUSTUS VOELCKER,

Prof. of Chemistry to the Royal Agricultural Society of England.

Remarks and Analysis by Dr. Sibson, of London. 11 Eaton Terrace, St. John's Wood, Dec., 1867.

Amongst the natural deposits of phosphates now at command for furnishing the constituents of our superphosphates, and other prepared manures at present so extensively consumed in our fields, that of the Island of Navassa, lately brought to notice, appears to be one of the most important. In the search for Natural Phosphates, now pretty actively prosecuted, materials of this description are sometimes found, which may possess a certain amount of scientific interest, but are of no practical importance, solely on account of their insignificant quantity. Again, a phosphate possessing almost every desirable quality, may be excluded from the market by the unfortunate fact of its percentage of Phosphate of Lime being too low. Neither of these drawbacks, however, attach to the Navassa Guano.

As I find from analyses of several cargoes lately brought to this country, that the Navassa Guano possesses a high value, I consider that it merits more than ordinary attention.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Moisture and Water of Combination.....	10.24	9.25	5.73	12.90	11.15	6.53
*Phosphoric Acid.....	32.94	32.57	33.43	32.21	31.27	33.03
Lime.....	37.91	37.34	40.15	36.13	34.90	37.20
Carbonic Acid.....	1.30	1.20	(not determined.)		1.68	1.02
Equal to Carbonate of Lime.....	2.95	2.72		3.75	2.32	
Oxide of Iron, &c.....	15.36	17.18	17.85	16.63	15.83	18.24
Insoluble Matter.....	2.25	2.46	2.84	2.13	5.17	3.98
	100	100	100	100	100	100

*Equal to Tribasic Phosphate of Lime..... 71.36 70.57 72.43 69.80 67.76 71.58

The average percentage of Phosphate of Lime, in most samples, I find to be over 70 per cent., which, as an average, is higher than most Phosphatic materials now on the market.

ALFRED SIMSON, F. C. S., &c. Royal Agricultural College, Cirencester, England.

Analysis by Dr. Liebig, Baltimore, of cargoes lately imported.

Bark Savannah..... June 8, 1868, containing, crude, 69.94—when dried, 76.61 per cent. of Bone Phosphate of Lime.						
Brig Cyrus Fessett, " 27, 1868, " " 68.89 " " 75.16 " " " "						
Brig Fidelia..... " 10, 1868, " " 68.87 " " 75.44 " " " "						
Brig M. E. Banks, May 8, 1868, " " 66.63 " " 73.59 " " " "						
Brig Romance..... June 16, 1868, " " 69.11 " " 76.61 " " " "						

For Sale by

R. W. L. RASIN, General Agent,
32 SOUTH STREET, BALTIMORE.